Communications Regulatory Authority
هيئة تنظيم الاتصالات
State of Qatar دولة قطر

Market Definition and Dominance Designation in Qatar - Market definition and review of Candidate Markets

Draft for Consultation

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1 Introduction

In line with the requirements under the Telecommunications Law and international best practice, the Communications Regulatory Authority (the Authority, hereafter)[1] is regularly reviewing the competitive dynamics in the telecommunications sector in order to determine the need for **(ex-ante) regulatory intervention**. This is referred to as the "Market Definition and Dominance Designation" (**MDDD**) process. The need for regular updates of the MDDD is to ensure that any resulting regulation remains up-to-date and in line with the underlying market dynamics.

Following previous MDDDs in 2008 and 2011, the Authority is currently conducting the next **MDDD update**. The need for this update is motivated, amongst others, by the following:

- At the time of the 2011 MDDD, both Vodafone and Qnbn had only recently entered the Qatari telecommunications market. Since then, the sector has been characterised by two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar.
- Competition in the fixed voice and broadband services has not developed sufficiently so far and Ooredoo remains the only service provider (SP) on a national scale.
- Vodafone remains reliant on Ooredoo for certain wholesale services.
- In June 2014 the Authority issued a policy statement setting out its overall approach to regulation of the sector going forward.[2] This, amongst others, stated a focus on regulating wholesale markets and prevailing bottlenecks.

Given this, and in line with international practice, the Authority considers it important to review the current market dynamics across the sector and to confirm the need for ex-ante regulation within it.

Proposed amendments to current MDDD methodology

The MDDD process is designed to identify those SPs where ex-ante regulation should be imposed. Ex-ante regulation can be intrusive, but is necessary where there is a significant and on-going likelihood that absent such regulatory intervention, competitive markets will not develop. In doing so the Authority weighs up the risks of imposing ex-ante regulation, against the benefits of such regulation. International best practice limits also regulation at retail level to the minimum, where no regulation at wholesale level is possible or has failed.

As part of the MDDD process, the Authority identifies the relevant product and geographic markets for retail and wholesale telecommunications services in Qatar to be considered in the MDDD process, consistent with the approach in its Notice of the Standards, Methodology and Analysis to be applied in the Review of MDDD in the Telecommunications sector in Qatar. It then assesses the competitive dynamics in each relevant market in order to identify those markets which it considers are susceptible to ex-ante regulation. It then identifies any dominant service providers (i.e., providers which can act independently of consumers and of other providers) in each of those markets. As a final step, the Authority determines the relevant (ex-ante) regulatory obligations for dominant service provider in each market in order to address the competitive concerns in that market.

[1] Note: The Authority has been established as an independent regulatory authority as of April 1st, 2014. It takes over the responsibilities of the former Regulatory Authority within the Supreme Council for Information and Communication Technology (ictQATAR). Thus, for consistency, we use the term "The Authority" in this document although in some of the referenced documents the term ictQATAR may still be used.

[2] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

In addition to the above, the Authority relies on its (ex-post) **competition powers** as a complementary tool to address potential anti-competitive behaviour of any providers in the relevant telecommunications market.

Proposed amendments

As part of the previous MDDD the Authority further identified three Relevant Markets which, at the time, were considered to be 'dynamic' and thus susceptible to a Shortcut Process[3] under the next MDDD update. These markets included the markets for: (i) retail national voice services from a mobile device, (i) retail mobile broadband services and (iii) retail outgoing international call services from a fixed location or mobile device. This was followed by a Policy Statement in 2014 which stated, amongst others, a need to shift the focus from regulating retail markets to wholesale regulation. This is particularly relevant in markets which are characterised by competing national networks, as is the case for mobile voice and broadband services in Qatar.

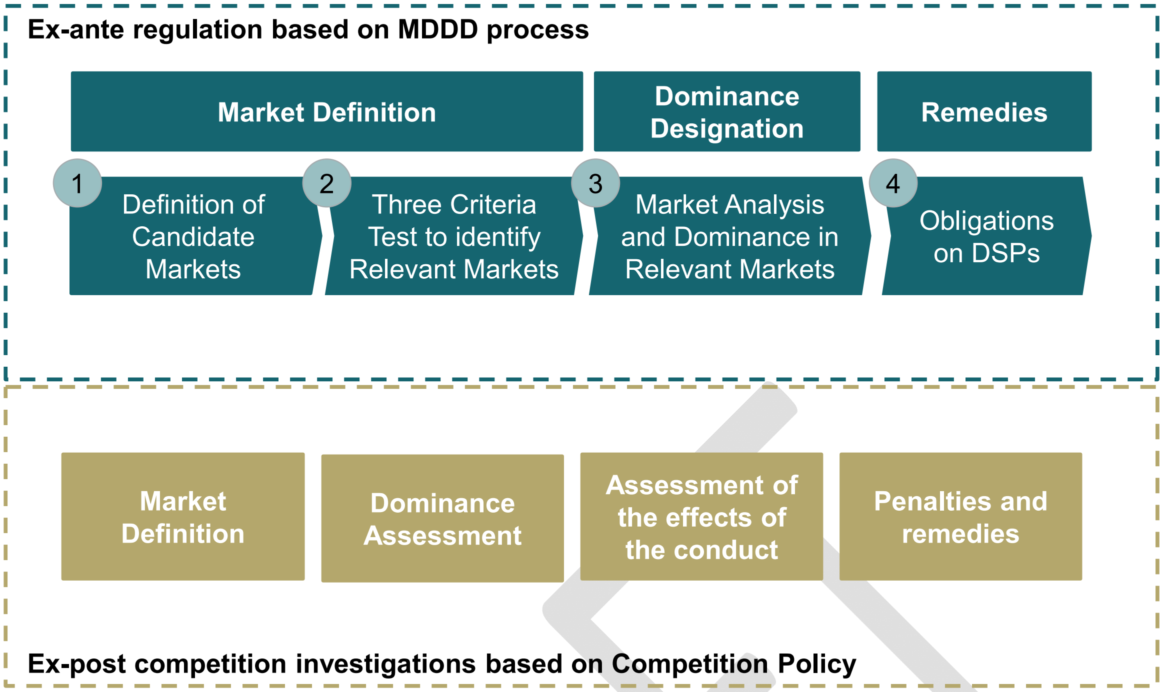
As such, in preparation for this MDDD update, the Authority has reviewed its MDDD methodology in order to reflect the principle of and approach for the Shortcut Process. This has led to the inclusion of a **Three Criteria Test (TCT)**, a commonly applied test to assess the need for ex-ante regulation in a particular service market based on whether that market exhibits three specific characteristics - i.e.:

- high and non-transitory barriers to entry,
- no tendency to effective competition; and
- insufficiency of competition law to address competitive concerns

The proposed amendments to current MDDD methodology and the TCT are further discussed in Section 2 of this consultation document.

In parallel to the above, the Authority is developing a **Competition Policy**, setting out the methodology on how it will assess alleged anti-competitive behaviour of service providers (such as, predatory pricing, excessive pricing and undue discrimination). This Policy, which is consulted upon in parallel in a separate document, will then form the basis for ex-post competition investigations by the Authority going forward.

[3] The "Shortcut Process" is described in Section 2 below. The full background for the "Shortcut process" is contained in Section 2.3 of the Response Document and Part F of the Notice and Orders (all in one pdf available at http://www.ictqatar.qa/sites/default/files/documents/MDD_Notice_English.pdf ICTRA 2011/10/31, 31 October 2011)



MDDD update – Process overview

The current MDDD update will be conducted in two phases:

- **Phase I** – During this initial phase, the Authority confirms its proposed changes to the MDDD methodology and develops a list of Candidate Markets to review during the MDDD update. It has further applied the TCT to the Candidate Markets which are characterised by competing infrastructure or other pro-competitive characteristics (such as, competitive pressure from Over-the-Top (OTT) based service providers). The preliminary results from the Phase I activities are set out in this consultation document.
- **Phase II** - As part of the second phase, the Authority will then apply the TCT to the remaining Candidate Markets. It will then conduct the market analysis and dominance findings for each Relevant Market considered, to determine the regulatory remedies for DSPs. The preliminary results from Phase II activities will also be subject to public consultation, expected in September 2015.

Preliminary findings on Phase I activities of the MDDD update

Having concluded its preliminary analysis of the Phase I activities, the Authority now wishes to consult on its preliminary findings on the list of Candidate Markets and its assessment of mobile service related Candidate Markets with competing infrastructure.

Proposed list of Candidate Markets

The table below sets out the current product markets (i.e., those defined under the 2011 MDDD) and the proposed new list of Candidate Markets. It further highlights the key changes in the market definitions. Further details on each of these Candidate Markets are set out in Section 3 below.

Table 1. 2011 MDDD markets and proposed new Candidate Markets

2011 MDDD	Proposed Candidate Market[4]	Key change
Retail services		
M1 - Access to public telecommunications networks at a fixed location	Retail national fixed voice and broadband services	Single product market for fixed access, national calls and fixed broadband services
M2 - Public national telecommunications services at a fixed location		
M3 - Public international telecommunications services at a fixed location and via a mobile device	Retail international outgoing call services at a fixed location - Residential customers	• Separate product markets for calls originating at a fixed location and from a mobile device • Each product market is further separated into a market for residential and business customers
	Retail international outgoing call services via a mobile device - Residential customers	
	Retail international outgoing call via a fixed location - Business customers	
	Retail international outgoing call services via a mobile device – Business customers	
M4 - Broadband services at a fixed location	Retail national fixed voice and broadband services	Considered as part of the single product market for fixed voice and broadband services
M5 - Retail leased lines services	Retail national leased lines services	Separate product markets for national and international leased lines
	Retail international leased lines services	
M6 - Public national telecommunications services via a mobile device	Retail national mobile voice and broadband services – Residential customers	• Single product market for fixed voice and broadband services • Separate markets for residential and business customers
M7 - Broadband services via a mobile device	Retail national mobile voice and broadband services – Business customers	
Wholesale services		
M8 - Origination on public telecommunications networks at a fixed location	Wholesale call origination on public telecommunications networks at a fixed location	No change
M9 - Termination on public telecommunications networks at a fixed location	Wholesale call termination on individual telecommunications networks at a fixed location	No change
M10 - Wholesale physical network infrastructure access	Physical access to network infrastructure	New sub-markets: • Access to Ooredoo's and Vodafone's mobile sites, masts, towers, including relevant ancillary facilities and collocation space • Access to Ooredoo's access network dark fibre, ducts, relevant ancillary facilities and collocation space • Access to and ability to co-locate at Ooredoo's and Vodafone's cable landing stations
M11 - Wholesale access to broadband services at fixed locations	Wholesale broadband access at a fixed location	
M12 - Wholesale leased lines	Terminating segment of (national and international) wholesale leased lines services	Separate product markets for terminating and trunk segments of leased line services
	National trunk segment of wholesale leased lines services	
	National trunk segment of wholesale leased lines services	

[4] All proposed Candidate Markets are national in scope. This is in line with the geographic market definitions under the 2011 MDDD.

M13 - Access and origination on public mobile networks	Wholesale access and origination on public mobile networks	No change
M14 - Termination on public mobile networks	Wholesale termination on individual mobile networks	No change

<u>Assessment of Candidate Markets with competing infrastructure</u>

Having applied the TCT to the six proposed Candidate Markets relating to retail national mobile voice and broadband services and retail international call services (set out in the table above), the Authority preliminary concludes that the following three Candidate Markets are not susceptible for ex-ante regulation[5]:

- Retail market for national mobile voice and broadband services – Residential customers;
- Retail international outgoing international call services via a mobile device – Residential customers; and
- Retail international outgoing international call services via a mobile device – Business customers.

All remaining Candidate Markets will be assessed in more detail as part of Phase II of the MDDD update.

Further details on the application of the TCT to the six Candidate Markets are set out in Section 4 below.

The above preliminary conclusions are in line with the overall policy objective of focussing ex-ante regulation on wholesale services and remaining economic bottlenecks impeding the development of competition in the relevant retail markets. In particular, based on its review to date, the Authority considers that in the above Candidate Markets the two existing network infrastructures in Qatar have allowed the relevant markets to tend towards competition. This, in its view, allows removing ex-ante regulation from these retail markets, focusing regulation instead on the relevant wholesale markets. In addition, the generalised use of OTT based services by customers illustrates a significant shift in customers' behaviours and their ability to build a countervailing market power. This is further facilitated by the strengthening of the ex-post Competition Policy, which is consulted upon in parallel.

<u>**Next steps after this consultation**</u>

Once this consultation has concluded, the Authority will publish:

1) A Regulation that contains the list of Candidate Markets with those identified as susceptible to ex-ante regulation
2) An updated Methodology Document applicable to both MDDD and ex-post competition investigations
3) The Authority's reasoning for its decision on the new list of Candidate and Relevant Markets

The Authority will then also commence its assessment of the Relevant Markets (i.e. the Candidate Markets susceptible to ex-ante regulation), in terms of the market analysis and dominance findings for each Relevant Market to determine the regulatory remedies for DSPs in each of the markets considered. A consultation on the Authority's preliminary findings on

[5] For the avoidance of doubt, any regular reporting requirements for service providers on these and other services will prevail. This will be further discussed in Phase II of the MDDD update.

any dominance designation and required ex-ante regulation in the Relevant Markets is expected to be issued in September 2015.

1.1 Consultation questions

As part of this consultation process, the Authority is seeking feedback on its preliminary views on the amended approach to determine Relevant Markets, its proposed list of Candidate Markets and its assessment of mobile service related Candidate Markets with competing infrastructure. In particular, stakeholders are requested to respond to the following consultation questions.

Amendments to approach to determine Relevant Markets

1. Do you agree with the proposed approach to defining Candidate Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Candidate Markets in Qatar.
2. Do you agree with the proposed approach to identifying Relevant Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to identify Relevant Markets in Qatar.

Candidate Markets

3. Do you agree with the proposed Candidate Market for retail national fixed voice and broadband services as set out in Section 3.1.1 and Section 3.1.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
4. Do you agree with the proposed Candidate Markets for retail national mobile voice and broadband services as set out in Section 3.1.3 and Section 3.1.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definitions for these services.
5. Do you agree with the proposed Candidate Markets for retail international outgoing call services at a fixed location and via a mobile device as set out in Section 3.1.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
6. Do you agree with the proposed Candidate Markets for retail national and international leased lines services as set out in Section 3.1.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
7. Do you agree with the proposed Candidate Markets for wholesale call origination on public telecommunications networks at a fixed location as set out in Section 3.2.1? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
8. Do you agree with the proposed Candidate Markets for wholesale call termination on individual telecommunications networks at a fixed location as set out in Section 3.2.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

9. Do you agree with the proposed Candidate Markets for wholesale physical network infrastructure access as set out in Section 3.2.3? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.
10. Do you agree with the proposed Candidate Markets for wholesale access to broadband services at fixed locations as set out in Section 3.2.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.
11. Do you agree with the proposed Candidate Markets for wholesale national and international leased lines as set out in Section 3.2.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for the trunk and terminating segments? Please evidence your response.
12. Do you agree with the proposed Candidate Markets for wholesale access and call origination on public mobile networks as set out in Section 3.2.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
13. Do you agree with the proposed Candidate Markets for wholesale call termination on individual mobile networks as set out in Section 3.2.7? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

<u>Assessment of mobile service related Candidate Markets with competing infrastructure</u>

14. Do you agree with the Authority's application of the TCT to markets for residential national mobile voice and broadband services, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
15. Do you agree with the Authority's application of the TCT to markets for business national mobile voice and broadband services, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
16. Do you agree with the Authority's application of the TCT to retail market for international call services from a residential mobile device and via an OTT service, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
17. Do you agree with the Authority's application of the TCT to retail international outgoing call via a mobile device for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
18. Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location and via a an OTT service for residential customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
19. Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location for business customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

1.2 How to respond to this consultation

The Authority asks that, to the extent possible, submissions be supported by examples or relevant evidence. Where SPs recommend alternative regulatory action this should be supported with evidence.

Any submissions received in response to this consultation will be carefully considered by the Authority when progressing in the Instruction. Nothing included in this consultation document is final or binding. However, the Authority is under no obligation to adopt or implement any comments or proposals submitted.

Comments should be submitted by email to raconsultation@cra.gov.qa by the date indicated on the cover letter at the latest. The subject reference in the email should be stated as "Market Definition and Dominance Designation". It is not necessary to provide a hard copy in addition to the soft copy sent by email.

1.3 Overview of the remainder of this document

The remainder of this consultation is structured as follows.

- Section 2 sets out the Authority's proposed approach to determine Relevant Markets, focusing on the main changes to the approach relative to the previous MDDD process.
- Section 3 presents the Authority's proposed Candidate Markets for this MDDD update.
- Section 4 then sets out the Authority's preliminary conclusions of its assessment of Candidates Markets with competing infrastructure.
- Section 5 presents key next steps in the MDDD update.

Further background and the legal basis for this MDDD process are set out in an Annex.

2 Approach to determine the Relevant Markets

This Section provides a high-level overview of the key stages involved in the overall MDDD process, and how the proposed introduction of the TCT changes it. It then explores the TCT in more depth.

2.1 Background

In June 2014, the Authority issued the Policy Regulating for the Future, announcing the needs to shift its focus from retail to wholesale markets. With that Policy, the Authority highlighted that:

- Ex-ante regulation at the wholesale level should be considered sufficient to tackle potential competition problems on the related downstream market(s)
- Regulation shall shift its focus from the retail side to the wholesale side as a needed move towards lighter forms of regulations, less intrusive, giving ground for innovation
- A wholesale focus implies shifting the level of regulation to a higher point in the value chain focusing on the real bottlenecks, on the inputs not being replicable from a technological or economic point of view
- Such a change in focus does not mean that retail regulation will disappear overnight: the shift will be gradual and a wholesale regulation will be the main means to achieve CRA objectives to the benefit of customers, providers and of the national economic system.

The adoption of such an approach requires some pieces of regulation to be introduced or enhanced. The Authority believes that the first step to achieve these objectives is the review of the list of Relevant Markets focusing on wholesale market rather than on retail markets therefore leading to a decrease in the number of regulated markets.
This review is due to provide the Authority with a list of Relevant Markets more representative of the:

- Real network bottlenecks, impeding the development of the competition in the Retail Markets
- Retail Markets to be considered competitive, currently or forward-looking
- Markets, which still need an ex-ante regulation.

According to its Policy, in June 2014 CRA put forward a consultation in which it asked stakeholders' views on the introduction of the TCT in the market definition stages.[6] In that consultation, CRA proposed:

- To review the "Notice of the Standards, Methodology and Analysis to be applied in the Review of Market Definition and Dominance Designation in the Telecommunication Sector in Qatar" (ICTRA 2011/03/31b) for the Market definition, including the assessment of the Markets susceptible for ex-ante regulation. More specifically, The Authority would like to consider the adoption of the TCT used in the European Union[11]
- To reduce the number of the Retail Markets subject to ex-ante regulation, relying on the wholesale reference offers to favorite the competition.
- To use ex-post regulation to monitor the markets and the Service Providers behavior
- To analyze the existence of "sub-markets".

[6] CRA 2014/06/25 of 25 June 2014

- To clarify the content of the current M10 “Wholesale physical network infrastructure access”. An investigation related to the international connectivity should be also performed.

The above consultation was followed-up by a secondary note in November 2014 asking stakeholders to elaborate further on their perspective of the TCT. Specifically, the note asked SPs to specify their views on departing from the 2010 methodology; on whether they think the TCT is appropriate as a new framework; and whether there are further changes they would like to see in the market definition stage.[7]

The 2010 MDDD was based on the four step approach, depicted in the Figure below. The first two stages of this approach are relevant to the Market Definition process, reassessed in this document. The remaining two steps, relating to the dominance designation and remedy design, will remain unchanged going forward.

The proposed approach brought forward in this document specifies the Authority’s proposal for the appropriate implementation of the TCT in the Market Definition stage.

It differs from the 2010 approach in that at the second stage markets which do not pass the TCT are considered not be susceptible to ex-ante regulation and are therefore a dominance assessment is not made. .A summary of the proposed, revised approach is illustrated in the Figure below. Further details on the revised Stage 1 (Definition of Candidate Markets) are presented in Section 2.2, followed by an overview of the revised Stage 2 (Identification of Relevant Markets) in Section 2.3.

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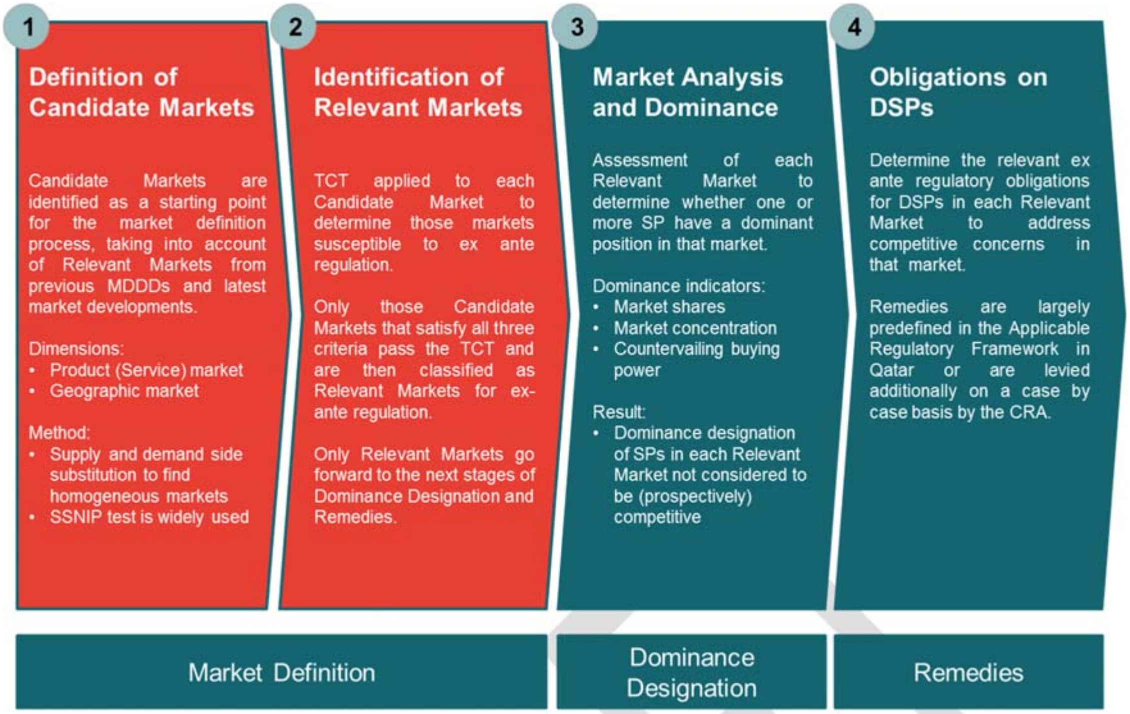
[7] CRA-RAC-14-153 of 30 November 2014



2.2 Approach to defining Candidate Markets

The first step in the revised approach is to identify a set of Candidate Markets. This stage is where all service and geographic markets are defined, regardless of whether they would end up being susceptible to ex-ante regulation or not.

The definition of Candidate Markets follows a process similar from the process used in the 2010 MDDD. It starts off from looking at the previously defined markets in Qatar, and draws from international best practice[8], recent market developments in Qatar and broader technological developments to determine which services and geographic areas form part of the same economic market.

Candidate Market definition begins with identifying a narrowly defined focal service. The market for providing this service is then widened to all demand and supply-side substitutes which a hypothetical monopolist would need to control before it could profitably raise prices by a small and significant non-transitory amount. The approach identifies retail and wholesale markets, while recognising that wholesale markets are derived from the retail markets. As previously, two key dimensions are considered during the process: the relevant product dimension (also regarded as a service market in the telecommunications context), and the relevant geographical dimension of each relevant product markets. The aim of these is to be

[8] See for example 2014 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L 295/79 (see http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014H0710&from=EN); 2007 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L 344/65 (see: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:344:0065:0069:en:PDF); 2003 Commission Recommendation of 11 February 2003 on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation (see: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32003H0311&from=EN)

able to identify economic markets within which conditions are homogeneous. That is, products in the market and the geography over which the market is defined have similar supply and demand-side competitive constraints.

The proposed approach also considers whether different customer segments, notably business and residential customers, have sufficient degrees of homogeneity to be included in the same economic market. In some circumstances, competitive constraints between these two segments vary substantially. On the demand-side, there may be strong differences between the requirements of residential and business customers, or differences in their demand elasticity (i.e., their willingness to pay for the same product is noticeably different). On the supply-side, differences can mean that one segment of customers has more competitors offering services than the other segment has.

2.3 Approach to identifying Relevant Markets

2.3.1 Introduction

Each of the Candidate Market identified under Step 1 is then subject to the TCT in order to determine whether that market should be classified as a Relevant Market susceptible to ex-ante regulation. In order to be a Relevant Market, each Candidate Market must exhibit the following three characteristics:

1) The presence of high and non-transitory barriers to entry
2) A market structure which does not tend towards effective competition within the relevant time horizon; and
3) The insufficiency of competition law alone to adequately address the market failure(s) concerned.

In applying the TCT, the Authority will consider the evidence on each criterion and on balance across all three criteria, whether the market is susceptible to ex-ante regulation. Each of the three criteria is assessed separately, and all of them have to be met for the Candidate Market to pass the test. A Candidate Market which passes the test then becomes a Relevant Market, with all Relevant Markets being considered in the Market Review and Dominance assessment and Remedy design stages of the MDDD. All remaining Candidate Markets are considered (prospectively) competitive and will not be considered further in the current MDDD process.

Applying the TCT in the Qatari context therefore aims to focus ex-ante regulation on the markets where it is necessary, and avoids ex-ante regulation where competition is possible, and ex-post regulation can be used.

2.3.1 Three criterions in more detail

Below each of the three criteria underlying the TCT is discussed in more detail.

<u>Criterion 1: High and non-transitory barriers to entry</u>

The first criterion measures how easy it is for competitors to enter the market and/or for existing providers to expand their offerings. Barriers to entry are usually assessed through a modified Greenfield approach, meaning that they are assessed under a hypothetical scenario in which no ex-ante regulation is already in place. Indicators include:

- Existence of sunk costs such as sunk costs incurred building a telecommunications network;
- Control of infrastructure not easily duplicated for example because it is not economically profitable to replicate an incumbent's network or there are other barriers such as licencing barriers, administrative authorisation, regulatory or licencing limits and conditions attached to the use of spectrum; regulation on new entrants;
- Technological advantages or superiority;
- Easy or privileged access to capital or financial resources;
- Economics of scale, economics of scope which create significant barriers to entry;
- Vertical integration can be a barrier, particularly where a vertically integrated supplier controls an important upstream input;
- Barriers to develop distribution and sales network; and
- Products or services diversification.

Criterion 2: No tendency towards effective competition

The second criterion measures whether the market under consideration would tend towards effective competition, again, without regulation being in place. Indicators include:

- Current and historic market shares;
- Price trends and pricing behaviour;
- Control of infrastructure not easily duplicated;
- Products or services diversification (e/g/ bundles products or services);
- Barriers to expansion; and
- Potential competition.

Criterion 3: Insufficient competition law

The third criterion measures whether existing (ex-post) competition law is sufficient to address any potential anti-competitive practice in the market under consideration. Indicators include:

- Degree of generalisation of non-competitive behaviour;
- Degree of difficulty to address non-competitive behaviour;
- Whether anti-competitive behaviour brings about irreparable damage in related or connected markets; and
- Need of regulatory intervention to ensure the development of effective competition in the long run.

2.3.2 Stakeholder's views on the use of the TCT in Qatar

The Authority notes that, as part of their responses to date, **Ooredoo**[9] generally expressed its support for the application of the TCT, while **Vodafone**[10] and **Qnbn**[11] did not object to applying it. Below the Authority reviews the main comments on each of the criteria presented by SPs to date. Having considered the stakeholder comments received, the Authority preliminary concludes that the three criteria as set out above constitute an appropriate basis to assess the need for ex-ante regulation in Candidate Markets.

[9] See letter from Ooredoo to CRA dated 6 January 2015.
[10] See letter from Vodafone to CRA, 15 January 2015.
[11] See letter from Qnbn to CRA dated 15 January 2015.

2.3.2.1 Comments on the First criterion

Only Ooredoo commented explicitly on the first criterion, arguing that it should not be satisfied in the case that other competitors (i.e. Vodafone) have limited willingness to spend on investment. Ooredoo claims that “*new entrants in the market have very limited incentives to undertake network or commercial investment, and therefore in enhancing the competitive tension in the market, if the regulatory framework is such that the incumbent is forced to provide access and services even in the absence of real and permanent barriers to entry. Where there are no non-transitory barriers to entry, regulation must not be imposed*”.[12] With that, Ooredoo implied that the first criterion cannot be satisfied for downstream (retail) markets where barriers to entry for Vodafone are not “real” and “permanent”, since Vodafone could invest further in the upstream level to be able to better compete in those downstream markets.

The Authority notes Ooredoo’s comments and agrees with the principle that this criterion needs to focus on the existence of barriers to entry to the market under consideration. In absence of such barriers, this criterion is not fulfilled. This will be discussed further in Section 4 below.

2.3.2.2 Comments of the second criterion

Again, only Ooredoo commented on this criterion, detailing the conditions to review this criterion, and argued that further attention should be exercised when considering barriers to expansion. It claimed considering barriers to expansion “*does not appear to be relevant to the case of Qatar, given the relatively small number of market players involved and where there are no barriers restricting a service provider’s ability to expand its network or service*”.[13]

The Authority does not agree with Ooredoo’s conclusion that barriers to expansion are not relevant in the Qatari context. Whilst there are currently no alternative providers active in the downstream fixed voice and broadband market, there are two competing providers in the mobile voice and broadband markets. As such, the Authority considers the existence of barriers to expansion to remain a valid consideration in the context of the TCT in Qatar.

2.3.2.3 Comments of the third criterion

Only Vodafone commented on the third criteria, stating this criterion is satisfied a-priori under any circumstance in the Qatari context as, in its view, the existing competition law and frameworks in Qatar were insufficient to deal with competition problems.[14] As such, it concluded that whenever the first two criteria are satisfied, the test would be concluded.

The Authority notes Vodafone’s comments were on the competition framework in Qatar. As mentioned above, the Authority is currently undergoing a separate review of this framework to identify any potential amendments to it. Specifically it is consulting on its Competition Policy for ex-post investigations. The Policy identifies the conduct that is prohibited by the Telecommunications Law and Telecommunications by-Law, and describes how the Authority will investigate conduct which may have infringed the relevant law.

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[12] See p. 11,” Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014”, 2 October 2014.
[13] See p. 12,” Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014”, 2 October 2014.
[14] See letter from Vodafone to CRA, 15 January 2015.

This Competition Policy will provide transparency and certainty to market participants on the conduct that is permitted, and conduct that is prohibited. Therefore, subject to its formal decision on the Competition Policy, the Authority disagrees with Vodafone that there is an a priori assumption that ex-post competition law would be insufficient.

Once the Authority issues its final decision on the Competition Policy it considers the Policy to be an important consideration in the overall assessment for the need of ex-ante regulation. As such, it considers this criterion to remain an important part of the TCT.

2.4 Consultation questions on the approach to determine the Relevant Markets

In line with the above, the Authority invites stakeholders to comment on its proposed amendments to the approach to determine the Relevant Markets to assess as part of MDDD processes going forward. In particular, the Authority seeks stakeholders' views on the following matters:

1. Do you agree with the proposed approach to defining Candidate Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Candidate Markets in Qatar.
2. Do you agree with the proposed approach to identifying Relevant Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to identify Relevant Markets in Qatar.

3 Proposed Candidate Markets

This Section sets out the Authority's preliminary findings on the Candidate Markets for the MDDD update (i.e., Step 1 of the revised MDDD process set out in Section 2 above), both on the product and geographic dimension. This is undertaken separately for each retail and wholesale service group, starting with the 2010 MDDD market definitions and then assessing the need for amending the previous market definition.

3.1 Retail services

As undertaken for the previous MDDD, the Authority sees merits in assessing the potential Candidate Markets for retail services based on range of service clusters based on similarities in demand-side and/or supply-side characteristics. This is undertaken by taking the market definitions underlying the previous MDDD as a starting point and then assessing the need to revise the relevant product or geographic dimension of the Candidate Market, taking into account stakeholder feedback and key relevant market developments since the last MDDD.

3.1.1 National fixed voice services

3.1.1.1 Previous market definitions

As part of the previous MDDD, retail national fixed voice services were captured in two separate product markets:[15]

M1 captured all residential and business fixed line rental services, installation/activation services and narrowband (dial-up) internet services

M2 captured national fixed voice services (all national calls and fixed-to-mobile calls) for residential and business customers[16]

Both product markets above were national in scope.

Below the Authority assesses the need to amend the above market definitions in the context of this MDDD based on stakeholder feedback and key market developments relevant to the services under consideration.

3.1.1.2 Stakeholders' views and key market developments

Whilst opposing any split by technologies on the ground of technology neutrality, **Ooredoo** argued for separate markets for residential and business customers for national fixed voice services.

- <u>Fixed access services.</u> Ooredoo considers there to be limited scope for competition to emerge for residential line rental services due to the prevailing access deficit for these services. This does not hold for business customers, where there are positive margins, which provide incentive for market entry and competition for those particular customers. Ooredoo cited active targeting by Vodafone on this consumer segment as evidence that it belongs to a separate market than residential.[17]

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[15] Note that international outgoing calls from a fixed location were captured in a separate market (M3), discussed in Section 3.1.3 below.

[16] This includes national calls made via pre-paid calling cards.

[17] See p. 13," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.

- National fixed voice services. The product characteristics and average revenues per user (ARPU) for both customer segments are sufficiently different. [18] In particular, there are a range of Value Added Services (VAS) for business customers that are not available to residential ones. The prevailing differences in ARPU resulted in Vodafone expressing a much stronger interest in acquiring business customers than residential ones, "*implying there are different economic characteristics between the two segments which would support the recommendation of two sub-markets*"[19].

Vodafone also suggested that the market for national fixed voice services should be split into business and residential customer segments as the barriers for switching were significantly higher for business customers (without providing any evidence to support this statement).[20]

Vodafone further commented that in the context of Qatar, geographic markets are generally not required. This was regardless of whether the case for geographic markets exists in principle, as the costs of implementing of regulation with regard to any geographic markets would always outweigh any associated benefits.[21]

3.1.1.3 Preliminary assessment on the need for amending the previous market definitions

In Qatar, retail national fixed voice services are currently offered by Ooredoo and Vodafone.

- Ooredoo offers retail national fixed voice services to residential and business customers via its nationwide copper (PSTN) and fibre-optic (NGN) based network.
- Vodafone offers retail fixed voice services to predominantly residential customers at the Pearl and in Barwa City, Barwa Commercial and parts of Westbay. For the former it relies on wholesale access to Ooredoo's fixed network and for the latter on Qnbn's passive infrastructure.

National fixed voice services generally include access (i.e., the fixed line installed in a premise that allows the customer to make and receive calls), calls (i.e., the outgoing calls from a fixed line) and Value Added services (i.e., voice mail, call back, conference calling, etc.). Call services can further be differentiated by call destination (i.e., national calls, fixed-to-mobile calls and international calls).
These services may further be differentiated by customer segments, in particular between residential and business customers.

Given this, there are several considerations to be made when defining the relevant market and assessing the competitive dynamics of the market for retail national fixed voice services. These are as follows:

- The extent to which individual fixed voice services may constitute separate markets;
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- The available substitutes for fixed voice services (i.e., whether mobile voice services and/or OTT-based VoIP services should be included in this product market);

[18] See p. 13-14," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[19] See p. 14," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[20] P. 8, Vodafone letter to CRA, 2 October 2014.
[21] P. 8, Vodafone letter to CRA, 2 October 2014.

- Whether fixed voice and broadband services could be considered jointly;
- The extent to which services provided to residential and business customers form distinct markets; and
- The relevant geographic market (i.e., the need to consider sub-national markets).

The Authority considers each of these issues in turn below.

Are individual fixed voice services in the same market?

In theory, each fixed voice service could be considered separately. Whilst these services may constitute supply-side substitutes (i.e., a fixed voice service provider offering local call services, for example, will typically also be able to provide, at relatively low cost, fixed-to-mobile calls, as both services can be delivered over the similar network infrastructure), they are not demand-side substitutes for one another. That is, in the event of a SSNIP for a local call, a customer cannot substitute that for a fixed-to-mobile call and still reach the same customer).

However, there are practical considerations which may support a less granular product market definition. In particular, it is important to consider the fixed voice service providers, the current service offerings and the resulting competitive dynamics within the market. If, for example, all fixed voice service providers offer the same range of fixed voice services at similar prices, there may be limited differences in the competitive dynamics on the individual service level vis-à-vis the overall fixed voice service level.

The Authority notes that national fixed voice services in Qatar are commonly offered as a bundle of access and national call services. In particular, both Ooredoo and Vodafone offer unmetered local calls as part of their residential fixed line rental product (i.e., Ooredoo offers unmetered calls to other landlines within Qatar and Vodafone unmetered calls to other Vodafone Qatar landlines and mobiles). As such, end-users will consider the price across the bundle rather than individual product prices when deciding on which service provider to use. This suggests that these services should be considered in a single product market (rather than as separate products markets).

Whilst, in theory, there are lower barriers to entry for calls services than access services (i.e., alternative providers could enter the retail fixed voice market based on a carrier (pre)select or pre-paid calling card model which requires limited investment since relying on regulated wholesale offerings form Ooredoo), the Authority notes that this has not been the case to date (i.e., there are no carrier (pre)select providers in Qatar and the only pre-paid calling card services are offered by Ooredoo, focussing on international call services).

Given the above, the Authority has preliminary considered a single product market including retail fixed access services and local call services.

Whilst similar arguments could also be made for outgoing international calls from a fixed line to be included in the same product market (i.e., supply-side substitutability), the Authority remains of the view that due to prevailing demand-side and supply-side characteristics, the market for international call services remains distinct from the market for fixed access and local calls and thus, should be considered separately. This is further discussed in Section 3.1.5 below.

The previous market definition also included narrowband (dial-up) services. Given the continued decline in demand for these services[22], the Authority is of the preliminary view to exclude these services from the product market definition going forward.

Available substitutes for fixed voice services

There are two key considerations in determining the relevant product scope for retail fixed voice services: (i) the degree to which fixed and mobile voice services are effective substitutes for one another and (ii) the degree to which OTT-based Voice-over-Internet Protocol (VoIP) services are an effective substitute for fixed voice services.

In the previous MDDD neither of these services formed part of the relevant product markets for fixed voice services. As such, in the below the Authority focusses on whether has been any significant change in the market environment to merit a change in its position. When doing so, the Authority has taken into account demand-side and supply-side factors. Given the separate treatment of international outgoing calls, the focus below is on national fixed voice services only (see Section 3.1.3 for a discussion on the impact of OTT-services on international outgoing calls).

Fixed to mobile substitution

Based on its review of the available evidence on whether consumers consider fixed and mobile voice services as effective substitutes, the Authority has preliminary concluded that this is not the case in the context of Qatar.

Whilst both fixed voice and mobile voice services are widely available and used in Qatar (i.e., total (residential) fixed voice penetration exceeded 90% of total households and total mobile penetration was close to 150% at the end of 2014), there are prevailing differences in the product characteristics limiting the substitutability of both services. In particular, while mobile voice services allow customers to make and receive calls in a similar way as fixed voice services, there are no unmetered local calls offered as part of most mobile voice services in Qatar[23]. Further, there are, at times, quality of service differences between both service types and mobile voice customers do not get a geographic number, and are not entered automatically to the directory enquiries database.

Further, empirically, an indicator of substitutability would be an opposing trend in fixed and mobile connections and traffic volumes. However, this is not seen in Qatar where both total fixed voice and total mobile connections have increased over the period 2011-2014 (i.e., CAGR of [✂]% and [✂]%, respectively).[24] Average national call traffic per user also followed a similar trend across both fixed and mobile services over that period (i.e., CAGR of [✂]% and [✂]%, respectively).

Lastly, there is an increasing trend to bundled product offerings within fixed voice and between fixed voice, broadband and TV services. This will make substitutability of individual services within these multi-product bundles more difficult, as consumers value the overall range of

[22] The total number of dial-up customers has declined continuously in recent years and there are currently less than 5,000 customers using these services.

[23] Calls to Qatari mobile phones are priced similarly between fixed voice and mobile voice services (i.e. QR 0.35/minute to QR 0.45/minute from a landline and QR 0.35/minute under most post-paid plans and QR 0.55/minute for pre-paid users).

[24] Whilst the rate of connection growth has fallen relative to previous periods and overall population growth during this period, the Authority considers this to be a sign of the market converging to a steady state.

services offered and fixed voice services will be perceived as a requirement to be able to purchase multi-product bundles (including fixed broadband and TV services).

Given the above, the Authority considers it unlikely that customers will, going forward, switch in sufficient numbers to mobile voice services in the event of a 5-10% SSNIP in fixed voice services. As such, the Authority considers both services remain part of separate product markets, as found to be the case in the previous MDDD findings.

OTT based VoIP offerings

OTT-based voice (and messaging) services are VoIP services offered by international providers (such as, Skype WhatsApp or Viber). Users require an Internet connection and a personal computer, laptop, tablet or mobile smartphone in order to access the VoIP service which is provided via an OTT software solution (such as an app for smartphones or a software for PCs or laptops) from the service provider.[25] This differs from Vodafone's HomePhone product which, despite being a VoIP service, allows for a similar user experience as a traditional landline (i.e., customers use a handset, there is no need to turn-on the computer to make or receive calls - however, a pre-existing broadband connection is needed).

While OTT-based VoIP services have certain **features** that are similar to fixed voice services (such as the ability to make calls and receive calls from other customers from the same providers at comparable prices or lower than those offered by fixed voice services), certain distinguishing features may mean that OTT-based VoIP is not an effective substitute for fixed voice. For instance, these services commonly need a PC or smartphone (which is switched on) to make or receive calls[26], they commonly have lower quality of service and offer limited customer service or support. Further, OTT-based VoIP services do not provide a personal geographic number which limits the scope of receiving calls to customers from the same OTT provider only (i.e., these customers cannot be called from a Ooredoo or Vodafone fixed line or mobile).

Whilst the **access** software is commonly provided free of charge and without a monthly subscription fee, the user requires a broadband connection. Given current prices for retail broadband services, this could be a barrier to switching for customers with no broadband connection should the price of Ooredoo's fixed voice service increase by 5-10% (assuming that Ooredoo's current price is at a competitive level).[27] However, given the prevailing high (fixed and mobile) broadband penetration in Qatar, this is likely to affect a limited amount of end-users only.

When excluding the broadband connection costs, OTT-based VoIP is currently cheaper than Ooredoo's fixed access and local call product. Yet, no significant proportion of users has switched away from Ooredoo's product. Whilst the Authority has no information on current take-up or usage levels of OTT-based VoIP services, it notices that Ooredoo's total fixed voice connections have not declined in recent years (see above) and takes this as an indication that

[25] Some of these services are only available on a smartphone (such as, WhatsApp or Viber), whilst other OTT-based services are available on both smartphones and laptop and PCs (such as, Skype).

[26] Common technical issues with OTT-based VoIP services include: (i) latency (i.e., delays in packet delivery), (ii) jitter caused by variations in the delay of packet delivery (i.e., variations in the latency) and (iii) packet loss (i.e., packets are lost during transmission or simply arrive too late to be used. Alternatively, the network actually 'drops' packets during periods of network congestion.).

[27] For end-users who do not already have a broadband connection, there is an incremental cost of at least QR 233 per month (plus further set-up costs) for a basic broadband package from Ooredoo (and QR200 per month form Vodafone). Given that Ooredoo's residential fixed voice access product is priced at QR33 per month (excluding any set-up charges), this is likely to constitute a barrier to switching for these customers.

consumers do not consider these products as suitable substitutes to providing access to fixed voice services (but, potentially, as compliments). As such, the Authority does not consider OTT-based VoIP services would render a SNIPP by Ooredoo on its fixed access services unprofitable.

The Authority has limited information on **call prices** for OTT-based VoIP services. However, comparing the calling cost from Skype (being a prominent OTT-based VoIP service provider) to those of Ooredoo (and Vodafone) reveals that Skype is only similarly priced for calls within Qatar when calling another Skype user (see table below), which may require more coordination between calling and receiving party than under traditional fixed voice services. Whilst the unmetered Skype-to-Skype calls may increase the potential substitutability between OTT-based VoIP and national fixed voice services, the Authority considers the observed limited overall decline in average annual national call traffic per fixed voice subscriber in recent years (CAGR of [✂]% between 2011 and 2014) as an indication that Qatari users regard these call services as limited substitutes (or potentially as complements).

Table 2: High-level comparison of call prices for Skype, Ooredoo's landline and calling cards and Vodafone's Home Phone service

<table>
<tr><th>Destination</th><th>Skype to Skype call</th><th>Skype to non-Skype customer*</th><th>Ooredoo - Landline</th><th>Vodafone – Home Phone</th></tr>
<tr><td>Local call (on-net)</td><td rowspan="4">unmetered</td><td rowspan="4">QR 4.36/min</td><td rowspan="2">unmetered</td><td>unmetered</td></tr>
<tr><td>Local call (off-net)</td><td>QR 0.35/min</td></tr>
<tr><td>Calls to Qatari mobile (Ooredoo)</td><td rowspan="2">Peak:
QR 0.45/min
Off-peak:
QR 0.30/min</td><td>unmetered</td></tr>
<tr><td>Calls to Qatari mobile (Vodafone)</td><td>QR 0.35/min</td></tr>
</table>

Source: Operator websites, XE.com spot exchange rate and CRA analysis
* Average cost per minute based on a 3 minute call (inclusive of one-off connections charge)

Are fixed voice and broadband services in the same market?

There is a strong trend towards bundled service offerings of fixed voice and broadband services in Qatar. In particular:

- Ooredoo offers residential customers double and triple-play product bundles of fixed voice, fixed broadband and TV services.
- Vodafone's Superfast broadband offer at Barwa City includes both broadband and voice services.[28]

Take-up of these multi-product bundles is high (i.e., only [✂]% of Ooredoo's residential fixed voice customers are subscribed to a standalone fixed voice product). As such, these end-users will consider the price across the entire bundle rather than individual product prices when deciding on which SP to use.

Further, due to the emergence of VoIP, fixed voice and broadband services can now be delivered via similar network infrastructure (as evidenced by the case of Vodafone in Qatar). As such, they are increasingly becoming supply-side substitutes (i.e., in the event of a SSNIP

[28] The Authority notes that Vodafone's offer at Pearl does not include a voice service, which needs to be purchased separately.

by a hypothetical monopolist of fixed voice services, an existing fixed broadband service provider could also supply fixed voice services).[29]

Thus, while the Authority recognises that fixed voice and broadband services are different products and not demand-side substitutes for each other, there is an increasing trend towards multi-product bundling of these services which, in turn, results in end-users making choices based on the overall bundled price (rather than the prices of individual services within the bundle).

The Authority further believes that the market structure and competitive dynamics for these services are sufficiently similar in Qatar to reach the same conclusions on the market analysis and dominance designation for both services. In particular, all services are offered by the same service providers and, based on the Authority's analysis to date, their relative share of each market is comparable across the services. As such, from a practical perspective, these services can be considered jointly within a single product market.

Given the above, the Authority has preliminary assessed fixed voice and broadband services as part of a single product market.

Do services for residential and business customers form the same product market?
As recently argued by Ooredoo and Vodafone, retail markets for fixed voice services could be divided into residential and business segments. Indeed, within the business customer segment in Qatar, further segmentation may be possible into small businesses and large corporations. This is because the demand for fixed telecommunications services is likely to vary by size of the business. In particular:

- Small and medium sized businesses (i.e., small offices, shops) may have needs that are similar to a residential customer and could potentially be able to buy residential products, but may be constrained by the SP's terms and conditions for residential services. The Authority understands that in Qatar there is a non-trivial number of small businesses which are subscribed to residential tariffs.
- Large corporations tend to rely on leased lines and/or private circuits for their fixed voice and data solutions. These services are covered separately in consideration of the leased lines services market below. They may also be interested in closed caller group schemes and other bespoke service offerings and special requirements (such as reliability, demand for conference bridges, automated caller greetings and/or power-back up).

The Authority understands that Ooredoo and Vodafone offer fixed voice business products targeted at small and medium sized businesses, with more tailor-made voice and data solutions being offered to larger businesses.

As mentioned above, marketing strategies and market standards typically differ significantly between residential and business segments. For instance, whereas residential consumers have to choose among standardized tariff options, larger business consumers might negotiate on individual terms. Due to huge differences in consumptions levels (total connections and / or average usage) tariff structures (including discounts) will also differ substantially. All these

[29] The Authority recognizes that, given the limited substitutability of traditional fixed voice services and OTT-based VoIP services (discussed above), this supply-side substitutability only applies to licensed service providers in Qatar.

distinguishing characteristics reduce the potential of demand-side-substitution. However, the Authority currently does not hold any information on customer switching behaviour for these services. In the absence of switching data, it is not clear if demand-side substitutability exists. It could be argued that the features of the two types of product are not distinctive enough to inhibit switching should there be a price increase, especially for small businesses.

Residential and business fixed voice products are likely to be supply-side substitutes, as similar equipment and infrastructure is used to deliver both business and residential services (although there may be differences in the retail channels). So, in the event of a 5-10% SSNIP by a hypothetical monopolist of residential fixed voice services, a provider of business services could switch to the supply of residential services and vice versa. However, given the prevailing market structure, the supply-side substitution remains limited in the Qatari context.

Given the above, the Authority considers the service offerings for these two customer segments to be sufficiently different to, in principle, justify separate product markets.

However, the Authority believes that the market structure and competitive dynamics for these customer segments are sufficiently similar in Qatar to reach the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these customer segments can be considered jointly within a single product market.

As such, the Authority preliminarily defines a single market for business and residential fixed voice services.

Defining the relevant geographic scope

The relevant geographic market considers the degree to which demand and/or supply-side substitutes for the national fixed voice (and broadband) services vary by geography. In the absence of any such evidence on sub-national differences in product substitutability, the relevant geographic market should be defined as national.

The starting point for the Authority's assessment is its previous MDDD where all markets were defined as being national in scope. The Authority has then assessed whether there has been any significant change in the markets since the last review which would require changing its position on national fixed voice (and broadband) services. When doing so, the Authority has come to the preliminary conclusion that a national geographic market remains relevant for these services. This is based on a review of the following:

- Demand-side factors. The Authority has not seen any evidence that the nature of demand for national fixed voice (and broadband) services varies significantly at a sub-national level. While demand for national fixed voice (and broabband) products is local in nature (i.e., a customer is unlikely to move to another part of the country in case of a 5-10% SNIPP of residential fixed voice or broadband services), Ooredoo operates a ubiquitous fixed network nationally and therefore has the capacity to provide retail national fixed voice (and broadband) services throughout most of Qatar.

- Supply-side factors. Ooredoo remains the only nationwide provider of national fixed voice (and broadband) services.[30] Ooredoo offers national fixed voice (and broadband) services at a uniform price and product specifications across Qatar.[31] Given the limited deployment of alternative fixed core and access infrastructure across Qatar, the Authority remains of the view that one observes sufficiently homogenous supply conditions with regard to: i) the area covered by a network; ii) the existence of legal and other regulatory instruments; and, iii) the competitive environment. This supports defining the relevant markets as national in scope.

3.1.1.4 Preliminary conclusion on Candidate Markets

The Authority has come to the preliminary view to consider all national fixed voice services as part of a single product market. This market is national in scope.

Furthermore, as set out in Section 3.1.1.3 above, the Authority believes that the market structure and competitive dynamics for fixed voice and broadband services are sufficiently similar in Qatar to reach the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these services will be considered jointly within a single product market.

Given this, the Authority has come to the preliminary view to define the following Candidate Market for retail fixed voice (and broadband) services:

- Market for retail national fixed voice and broadband services for residential and business customers, independent of the technology used to deliver these services

3.1.2 Fixed broadband services

3.1.2.1 Previous market definitions

As part of the previous MDDD, there was a single market for retail fixed broadband services (M4), capturing residential and business broadband services at a fixed location, independent of the technology used to deliver these services.[32] This product markets was national in scope.

Below the Authority assesses the need to amend the above market definitions in the context of this MDDD based on stakeholder feedback and key market developments relevant to the services under consideration.

3.1.2.2 Stakeholders' views and key market developments

As for national fixed voice services **Ooredoo** argued for separate markets for residential and business customers for fixed broadband services. Due to prevailing "*significant*" price differentials between residential and business customer retail offerings require separate product markets for these customer groups (i.e., a 8 Mbps ADSL connection for business

[30] Whilst Qnbn has continued to deploy its passive fixed infrastructure network since the previous MDDD in 2011, its overall coverage remains limited to date. As such, any alternative provider of retail national fixed voice (and broadband) services will at least in part depend on wholesale access and call services from Ooredoo in order to offer these services nationwide.

[31] Although its broadband product offerings may differ in areas where it has both copper and fibre network coverage.

[32] This included, amongst others, products delivered over copper, fiber and/or fixed-wireless networks (such, as WiMAX).

customer was nearly three times more expensive than for residential users and the price differential for 100 Mbps products was a factor of four).[33]

3.1.2.3 Preliminary assessment on the need for amending the previous market definitions

In Qatar retail fixed broadband services are currently offered by Ooredoo and Vodafone via the same platforms as their national fixed voice services discussed in Section 4.1.1 above

Fixed broadband services can be differentiated by technology used to deliver the service (i.e. copper-based ADSL services vs. fibre-based services) and the (download) speed offered. They may further be differentiated by customer segments, in particular between residential and business customers.

As such, there are several considerations to be made when defining the relevant market and assessing the competitive dynamics of the market for retail fixed broadband services. These are as follows:

- The extent to which individual fixed broadband services may constitute separate markets;
- The extent to which services provided to residential and business customers form distinct markets;
- The available substitutes for fixed broadband services (i.e., whether mobile broadband services are a substitute for fixed broadband services); and
- Whether fixed broadband and voice services could be considered jointly; and
- The relevant geographic market (i.e., the need to consider sub-national markets).

The Authority considers each of these issues in turn below.

Are individual fixed broadband services in the same market?

Fixed broadband services are currently offered via both copper and fibre-network technologies.[34] In particular, while Vodafone only offers fibre-based products (ranging from 5Mbps to 100Mbps of advertised download speed), Ooredoo still offers both ADSL and fibre-based products to end-users (the former ranging from 1Mbps to 8Mbps of advertised download speed and latter offering speeds similar to Vodafone's fibre products). However, the Authority understands that Ooredoo is currently encouraging ADSL customers to migrate its fibre products, which are similarly priced (see table below). Most residential customers are subscribed to the lower speed packages (i.e., by the end of 2014, only [✂]% of total residential users were on a 25Mbps package with a further [✂]% of total users being subscribed to a higher speed offering).[35]

Table 3. Fixed retail broadband offers

Service provider	Product	Monthly charge	Comment
Ooredoo	ADSL - 1Mbps	QR 233	All fixed broadband

[33] See p. 14-15," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.

[34] The Authority notes that there are further narrowband (dial up) services available in Qatar. However, in line with the previous MDDD, the Authority does not consider these services to form part of the same product market as broadband services. The same holds for dedicated business connectivity services (i.e. leased lines) which are considered separately in this document.

[35] The Authority notes that a similar trend can be observed for business users.

	ADSL - 2Mbps	QR 333	offers include landline at no extra charge
	ADSL - 4Mbps	QR 433	
	ADSL - 8Mbps	QR 633	
	Fibre - 10Mbps	QR 233	
	Fibre - 25Mbps	QR 333	
	Fibre - 50Mbps	QR 500	
	Fibre - 100Mbps	QR 650	
Vodafone	Fibre - 5Mbps	QR 200	*SuperFast broadband offerings include landline* at no extra charge*, QR 30 per month otherwise*
	Fibre - 20Mbps	QR 300	
	Fibre - 50Mbps	QR 450	
	Fibre - 100Mbps	QR 550	

Source: Operator websites

The main difference between these technologies in the markets from an end-user perspective is the bandwidth and the customer premises equipment. Regarding bandwidth, whilst the Authority has not seen any switching evidence, there is a possibility for demand-side substitutability. This is because, if the price for one bandwidth offer is altered, the end-users is likely to consider switching to another bandwidth offer. Also on the supply-side there is substitutability with regard to bandwidth because the same access lines (copper or fibre), the same routers and transmission technology can be used to offer different kinds of bandwidths, at least to a certain extent.
Given the above, and in line with the previous MDDD, the Authority considers it adequate to include all fixed broadband products in a single product market.

Do services for residential and business customers form the same product market?
For the same reasons as outlined for national fixed voice services in Section 3.1.3 above, the Authority considers fixed broadband service offerings for residential and business customers to be sufficiently different to, in principle, justify separate product markets for each customer segment.

However, given the prevailing market structure and competitive dynamics for these services, there seems no practical need to do so. This is due to the similarity in the market dynamics for these services in Qatar leading to the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these services can be considered jointly within a single product market.

The Authority therefore preliminarily defines a single market for business and residential fixed broadband services.

Are mobile broadband services a substitute for fixed broadband services?
Based on its review of the available evidence on whether consumers consider fixed and mobile broadband services as effective substitutes, the Authority has preliminary concluded that this is not the case in the context of Qatar.

Similar to voice services discussed in Section 3.1.1 above, there are also limited signs of fixed-to-mobile substitution for broadband services in Qatar. In particular, as for voice services, there are differences in product characteristics (i.e., data caps on most mobile broadband offers, and the bundling of fixed voice and broadband services) that render these services complements, rather than substitutes, in particular for residential users. For example, total fixed broadband take-up is high (✂i.e., [✂]% of total households by the end of 2014). Both total fixed broadband and mobile broadband connections (i.e., dedicated connectivity plans only) have experienced a continued growth over the period 2011-2014 (✂i.e., CAGR of [✂]% and [✂]%, respectively).

Further, fixed broadband services are increasingly purchased as part of a wider product bundle to allow for Internet connectivity at home (✂i.e., by year end 2014, [✂]% of all residential fixed broadband connections formed part of a double-play or triple-play offer[36]), with mobile broadband services being used for Internet access 'on the go' or as secondary connection at home (✂i.e., whilst remaining popular – there were approximately [✂] dedicated mobile broadband connections in 2014 - take-up has recently fallen by [✂]% in 2014). Confined connectivity mobile broadband connections (i.e., mobile broadband plans on a smartphone or tablet) only represented [✂]% of all post-paid mobile connections in 2014.

Given the above, the Authority considers it unlikely that fixed broadband customers will, going forward, switch in sufficient numbers to mobile broadband services to make a 5-10% SSNIP unprofitable. Thus, the Authority continues to believe that fixed and mobile broadband services constitute separate product markets.

Are fixed broadband and voice services in the same market?

As discussed in Section 3.1.1 above, while the Authority recognises that fixed broadband and fixed voice services are different products and not demand-side substitutes for each other, there is an increasing trend towards multi-product bundling of these services which, in turn, results in end-users making choices based on the overall bundled price (rather than the prices of individual services within the bundle).

The Authority further believes that the market structure and competitive dynamics for these services are sufficiently similar in Qatar to reach the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these services can be considered jointly within a single product market.

Given this, the Authority has preliminary assessed fixed voice and broadband services as part of a single product market.

Defining the relevant geographic scope

For the same reasons as set out in Section 3.1.1.4 above, the Authority has come to the preliminary conclusion that a national geographic market remains relevant for fixed broadband services. This is based on a review of the following:

- Demand-side factors. The Authority has not seen any evidence that the nature of demand for fixed broadband services varies significantly at a sub-national level. While demand for these products is local in nature (i.e., a customer is unlikely to move to

[36] This is likely to be, in part, driven by Ooredoo offering fixed landline services at no extra cost to residential customers who subscribe to a post-paid fixed broadband plan. Vodafone has a similar offer outside of the Pearl area.

another part of the country in case of a 5-10% SNIPP of residential fixed broadband services), Ooredoo operates a ubiquitous fixed network nationally and therefore has the capacity to provide retail fixed broadband services throughout most of Qatar.

- Supply-side factors. As set out in Section 3.1.1.3 above, Ooredoo remains the only nationwide provider of fixed broadband services and it offers these services at a uniform price and product specifications across Qatar (although its offerings may differ in areas where it has both copper and fibre network coverage). Given the limited deployment of alternative fixed core and access infrastructure across Qatar, the Authority remains of the view that one observes sufficiently homogenous supply conditions to supports defining the relevant markets as national in scope.

3.1.2.4 Preliminary conclusion on Candidate Markets

The Authority has come to the preliminary view to consider all fixed broadband services as part of a single product market. This market is national in scope.

Furthermore, as set out in Section 3.1.2.4 above, the Authority believes that the market structure and competitive dynamics for fixed voice and broadband services are sufficiently similar in Qatar to reach the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these services will be considered jointly within a single product market.

Given this, the Authority has preliminary defined the following Candidate Market for retail fixed voice and broadband services:

- Market for retail national fixed voice and broadband services for residential and business customers, independent of the technology used to deliver these services

3.1.3 National mobile voice services

3.1.3.1 Previous market definitions

As part of the previous MDDD, retail national mobile voice services were captured in one product market that was national in scope:[37]

M6 captured all mobile access, installation/activation and national mobile voice services (all national calls and mobile-to-fixed calls) for residential and business customers.

Below the Authority assesses the need to amend the above market definition in the context of this MDDD based on stakeholder feedback and key market developments relevant to the services that are under consideration.

3.1.3.2 Stakeholders' views and key market developments

Ooredoo provided conflicting responses over time to describe its position on the definition of this market.

- When requesting a review of the Relevant Markets in Qatar in April 2014, Ooredoo brought forward many arguments that could suggest there is a strong difference between pre-paid and post-paid products in the national mobile voice market. It claimed that pre-

[37] Note that international outgoing calls via a mobile device were captured in a separate market (M3), discussed in Section 4.1.5 below.

paid products are more price sensitive, they enjoy more evenly spread market shares, they have different customer and demand characteristics, and that there is a more elastic demand for pre-paid products, compared to post-paid.[38] Despite bringing those arguments, Ooredoo did not explicitly express in any of its submissions that the pre-paid and post-paid segments should to be considered as different product markets.
- In its October 2014 submission, it argued that the only change it proposed to this product market is the inclusion of VoIP calls, without providing any evidence to support this claim. In another part of the document Ooredoo argued that there might be a link between a reduction in international voice minutes and increase in mobile data used for VoIP. However, it failed to claim such relation with regard to national calls. At the time, Ooredoo further stated that it did not suggest any other changes to this product market.

Vodafone stated the need to further split M6 into pre-paid and post-paid, and additionally split the post-paid market into business and consumer markets.[39][40] It suggested so for the following reasons:
- Barriers to switching are more material for post-paid than pre-paid services
- The characteristics of customers and hence demand curve are different for both, with Qatari nationals and Business users commonly opting for post-paid services.
- Substantially different market shares in each sub-market.

Vodafone suggested that defining these product markets as such "*will depend on identifying reasons for there being limited supply-side substitution (in particular) between the segments*".[41]

3.1.3.3 Preliminary assessment on the need for amending the previous market definitions

As for fixed voice services discussed in the Section 3.1.1 above, mobile voice services include access (i.e., the SIM card which allows the customer to make and receive calls), call (i.e., the outgoing calls from a mobile device), messaging (i.e., SMS and MMS), connectivity and Value Added services (i.e., voice mail, call back, etc.). Call services can further be differentiated by call destination (i.e., on-net and off-net mobile-to-mobile calls, mobile-to-fixed calls and international calls).

Retail national mobile voice services (i.e. outgoing call and messaging services from a Qatari mobile device to another Qatari mobile device or landline) are currently offered by Ooredoo and Vodafone.
- Ooredoo offers retail mobile voice services to residential and business customers via its nationwide 3G and 4G/4G+ mobile networks.
- Vodafone offers retail mobile voice services to residential and business customers via its nationwide 3G and LTE mobile network.

[38] See p. 9, 15 and 16, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014
[39] P. 7, Vodafonen letter to CRA, 2 October 2014.
[40] P. 39, Competition in mobile telecommunications markets in Qatar, A REPORT PREPARED FOR VODAFONE QATAR, 05.2014
[41] P. 39, Competition in mobile telecommunications markets in Qatar, A REPORT PREPARED FOR VODAFONE QATAR, 05.2014

In line with the markets encompassing national fixed voice and broadband services, the definition of the relevant markets for national mobile voice services and the assessment of their competitive dynamics need to take into account the following considerations:

- The extent to which individual mobile voice services may constitute separate markets;
- The extent to which pre-paid and post-paid product offerings form distinct markets;
- The available substitutes for mobile voice services;
- Whether mobile voice and mobile broadband services could be consider within a single market;
-
- The extent to which services provided to residential and business customers form distinct markets; and
- The relevant geographic market (i.e., the need to consider sub-markets).

The Authority considers each of the issues further below.

Are individual mobile voice services in the same market?

The Authority does not see merit in changing the definition of a single market for mobile access national call and messaging service from the previous MDDD as the underlying reasons for this decision have not changed.

As for retail fixed voice services, whilst national retail mobile voice services are characterised by a high degree of supply-side substitution[42], they typically are not demand-side substitutes for one another.[43] However, in line with retail fixed voice services, there may not be a need for such a granular product market definition for national mobile voice services if the competitive dynamics for the individual services are sufficiently similar. As a matter of fact, Qatari end-users typically buy mobile access and voice services in the same package. Ooredoo and Vodafone both offer such functional basic packages that, especially in the post-paid segment, include a certain amount of free minutes and access services jointly. Whilst this may hold less for pre-paid mobile voice services, the concept of users implicitly purchasing “functional packages” of access, call and messaging services equally applies to these products. For example, both Ooredoo and Vodafone offer as part of their pre-paid mobile plans (call and messaging) credits and mobile data allowances.

The Authority remains of the view that outgoing international calls from a mobile device exhibit different demand- and supply-side characteristics to require these services to be considered separately from national mobile voice services. This is further discussed in Section 3.1.5 below.

Do pre-paid and post-paid mobile voice services form the same product market?

The previous MDDD contained a single market for pre-paid and post-paid national mobile voice services. Given the recent stakeholder feedback on this matter, the Authority has reviewed the need for and merits of defining separate markets for these services as part of this MDDD update. Based on the evidenced reviewed to date, the Authority has preliminary

[42] For example, a mobile network operator can at a relatively low cost offer mobile on-net, off-net or mobile-to-fixed calls as long as there are no capacity constraints

[43] For instance, an end-user will not be able to substitute an off-net call to another end-user with an on-net call in the event of a 5-10% SSNIP for the off-net call.

concluded that considering pre-paid and post-paid mobile voice services in a single product market remains appropriate in the context of Qatar. This is due to, amongst others, the following:

- There is supply-side substitutability between both service groups. Whilst these services are commonly provide via different retail 'platforms', the network infrastructure is required to deliver pre-paid and post-paid mobile services.
- Both service groups are increasingly becoming demand-side substitutes in Qatar. Whereas post-paid mobile plans have become more flexible and accessible, pre-paid offerings have become more enhanced. For example:
  - There are limited to no barriers for end-users to subscribe to post-paid plans. For example, since both mobile operators have launched alternative payment mechanisms, introducing the ability to pay post-paid accounts using cash via payment kiosks and retail outlets, holding a bank account is not a prerequisite for subscribing to a post-paid plan anymore.
  - Ooredoo's Shahry post-paid plans are offered with a minimum contract length of three months (compared to a 12 months required commitment before 2013), increasing the ability for end-users to switch.
  - Ooredoo's has launched entry-level post-paid plans (Smart 15 and Smart 35), which include a limited amount of call and messaging credits and data allowance for a monthly charge of QR15 and QR35, respectively.
  - Ooredoo's and Vodafone's pre-paid offerings commonly include a (call) credits and an allowance for mobile data usage. Ooredoo's Hala Smart pre-paid offer further offers a range of call and messaging credits and mobile data allowance for a weekly charge of QR10 to QR60.

The Authority has not seen any customer switching evidence for pre-paid and post-paid plans. In the absence of switching data, it is not clear if demand-side substitutability exists. However, given the above, it sees no need to define separate product markets for pre-paid and post-paid national mobile voice services in Qatar. The Authority notes that this is, for example, in line with recent market definitions in Europe.[44]

Defining the relevant product scope

There are two key considerations in determining the relevant product market scope for national mobile voice services: (i) the degree to which national mobile voice and national fixed voice services are effective substitutes for one another and (ii) the degree to which OTT-based voice services are an effective substitute for national mobile voice services.

In the previous MDDD, neither of these services formed part of the relevant product markets for national mobile voice services. As such, in the below the Authority focusses on whether there has been any significant change in the market environment to merit a change in its position. When doing so, the Authority has taken into account demand-side and supply-side factors. Given the separate treatment of international outgoing calls, the focus below is on national mobile voice services only (see Section 3.1.5 for a discussion on the impact of OTT-services on international outgoing calls).

[44] Ex-ante regulation in Europe commonly focusses on wholesale markets. As such, there is no precedent from recent market reviews on relevant product markets for retail mobile voice services. However, as part recent merger investigations of mobile network operators in European Union Member States, the European Commission (EC) has defined a single market for retail mobile telecommunications services, including both pre-paid and post-paid services (and mobile voice and broadband services). Whilst defining a single product market, the EC does review sub-segments of this market as part of its assessment. See, for example: http://ec.europa.eu/competition/mergers/cases/decisions/m6992_20140528_20600_4004267_EN.pdf

Fixed to mobile substitution

Based on its review to date of the available evidence on whether consumers consider mobile and fixed voice services as effective substitutes, the Authority has preliminary concluded that this is not the case in the context of Qatar.

Whilst both services are widely available and used in Qatar, there are prevailing differences in the product characteristics limiting the substitutability of them. In particular, fixed voice services are constrained in mobility (a key characteristic of mobile voice services) and fixed line connections commonly serve an entire household, whilst mobile devices are considered a personal device.

Further, as mentioned in Section 3.1.2.3 above, there is no sign of end-users switching from mobile voice services to fixed voice services in Qatar (as total mobile and fixed connections and traffic have followed similar trends over the period 2011-2014).

Given the above, the Authority considers it unlikely that customers will, going forward, switch in sufficient numbers to national fixed voice services in the event of a 5-10% SSNIP in national mobile voice services. As such, the Authority considers both services remain part of separate product markets, as found to be the case in the previous MDDD findings.

OTT-based VoIP offerings

Similar to the discussion in Section 3.1.1.3 above, due to the recent rise in OTT-based VoIP offerings it is important to assess whether these services constitute an effective substitute for mobile voice services and thus, should be considered within the same product market.

Having considered the evidence received to date, the Authority has come to the preliminary view that OTT-based VoIP services currently do not form part of the same product market as mobile access and national call services. This is due to the following reasons.

- <u>Product characteristics</u>. As discussed in more detail in the context of national fixed voice services above, whilst both services have commonalities, there are also differences in the offerings. In particular, OTT-based VoIP services do not provide a personal geographic number which limits the scope of receiving calls to customers from the same OTT provider only (i.e., these customers cannot be called from a Ooredoo or Vodafone fixed line or mobile).
- <u>Demand trends</u>. Whilst the Authority has recently received evidence from stakeholders that demand for and usage of OTT-based call and messaging services is substantial in Qatar, this is not fully reflected in the detailed traffic data available to the Authority. Based on these market indicators, average mobile national call traffic per connection has remained constant over the period 2011 to 2014 and increased by [✂]% between 2013 and 2014. This also holds for mobile access services, as total mobile connections have continued to increase (at a higher rate than total population growth) in recent years.
- <u>Prices.</u> As discussed in the context of fixed voice services, OTT-based VoIP services are most attractive when calling other end-users of that service provider (i.e., “on-net” calls are commonly free of charge). All other calls attract similar, if not higher charges than those offered by Ooredoo and Vodafone. Whilst the unmetered “on-net” calls may increase the potential substitutability between OTT-based VoIP and national mobile voice services, the Authority considers the observed constant trend of average usage

of national calls per mobile connection in recent years as an indication that Qatari users regard these call services as limited substitutes or potentially complements.

As such, the Authority does not consider OTT-based VoIP services to render a 5-10% SNIPP of national mobile voice services unprofitable.

Are mobile voice and broadband services in the same market?
Whilst these services are characterised by a high degree of supply-side substitution (for example, a mobile network operator offering mobile voice call services will typically also be able to provide, at relatively low cost, mobile broadband services since both services can be delivered over the same network infrastructure), they typically are not demand-side substitutes for one another. That is, in the event of a 5-10% SSNIP for a mobile broadband service, a customer will not be able to substitute this service for a mobile voice service, due to functional differences in the offerings.

However, certain market trends in Qatar suggest that mobile voice and broadband services could constitute a single product market. In general, the demand for both services is becoming increasingly blurred, especially in the context of OTT-based voice and messaging services (such as, WhatsApp, or Skype). This is also increasingly reflected in the retail service offerings in Qatar. For example, Vodafone's residential pre-paid SIM card and Ooredoo's pre-paid top-up bonus include, amongst others, at least 250MB of mobile broadband allowance – while mobile post-paid packages also include allowances of between 100MB and 15GB. This is further in line with prevailing high occasional mobile Internet users (i.e., in 2014, 84% of all mobile broadband connections were occasional mobile Internet users which exhibit a non-trivial average usage) and confined connectivity mobile broadband users (i.e., in 2014, total confined connectivity mobile broadband subscription represented 31% of total post-paid mobile connections). Therefore, the Authority expects competition between SPs to focus on these bundled products of mobile voice and broadband services rather than competition in the individual services, which suggests analysing these services in a single product market.

Whilst the Authority recognises that mobile voice and broadband services are different products and not demand-side substitutes for each other, given the increase bundling trend for both services suggests that end-users make choices based on the overall bundled price (rather than the prices of mobile voice or broadband services within the bundle). Given this increased competition in bundled packages, especially in the residential consumer segment, the Authority sees merits in defining a single market for mobile broadband services and national mobile voice services, while keeping international calls from a mobile device in a separate market. The Authority notes that this is, for example, in line with recent market definitions in Europe.[45]

Do services for residential and business customers form the same product market?
As discussed in the context of fixed voice and broadband services, it is important to recognise differences within the business customer segment. Small businesses (i.e., small offices, shops) may have needs that are similar to a residential customer and could potentially be able

[45] As mentioned above, as part of its recent merger investigations of mobile network operators, the EC has defined mobile voice and broadband services to be part of a single market for retail mobile telecommunications services. This was predominantly based on supply-side substitutability and given that end-users commonly use mobile devices to make calls and access the internet. See, for example: http://ec.europa.eu/competition/mergers/cases/decisions/m6992_20140528_20600_4004267_EN.pdf

to buy residential products (despite service provider's terms and conditions aiming to prevent this from happening). On the contrary, large corporations are likely to be interested in closed caller group schemes and other bespoke service offerings (including high volume discounts). Given this, in the below, the Authority focusses on the need to consider large corporate clients separate from residential and small business clients.

Whilst both product groupings are likely to be supply-side substitutes as similar network infrastructure is required to deliver both large business and residential services. There are, however, differences in the retail marketing and customer care activities required for both customer segments, which could limit the supply-side substitutability.

There are also significant differences in demand characteristics between both customer segments. In particular:

- Demand. Business customers are commonly more sensitive to quality of service, security, and stability of connection.
- Demand for OTT-based services. The increasing prominence of OTT-based VoIP call and messaging services is likely to impact the residential customer segment the most, whereas demand for OTT-based VoIP services may be less pronounced amongst business customers due to, for example, quality of service, lower price sensitivity, user experience and other considerations.
- Service offerings. Marketing strategies and market standards typically differ significantly between both customer segments. For instance, whereas residential consumers have to choose among standardized tariff options, business consumers might negotiate on individual terms. Further, the terms and conditions commonly prevent business users to purchase residential packages and vice versa. Business customers typically also cannot choose between pre-paid and post-paid offerings, as the latter are commonly only offered to residential users. Whilst Vodafone offers different mobile post-paid packages to business and residential users, Ooredoo does not differentiate its offerings for both customer groups. However, it offers other features to business customers only (such as, closed user group tariffs, cost control options, favourable payment terms and dedicated account managers to large businesses). All these distinguishing characteristics reduce the potential of demand-side-substitution.[46]

The Authority currently does not hold any information on customer switching behaviour for these services. In the absence of switching data, it is not clear if demand-side substitutability exists. However, given the above, it appears that the demand and features of the two types of products are sufficiently distinctive to inhibit switching should there be a 5-10% SNIPP. Given this, the Authority considers the service offerings for these two customer segments to be sufficiently different to justify separate product markets. As such, the Authority preliminarily defines separate markets for business and residential mobile service.

Defining the relevant geographic scope

The starting point for the Authority's assessment is again its previous MDDD where the market for national mobile voice services was defined as being national in scope. The Authority has then assessed whether there has been any significant change in the market since the last review which would require changing its position on mobile voice services. When doing so, the Authority has come to the preliminary conclusion that a national geographic market remains relevant for these services. This is based on a review of the following:

[46] The Authority notes that there is a small number of small business purchasing residential packages. However, it considers this not significant enough to justify a single product market for both customer segments.

- Demand-side factors. The Authority has not seen any evidence that the nature of demand for pricing of mobile voice services varies significantly at a sub-national level. Ooredoo and Vodafone both operate ubiquitous mobile network nationally and therefore have the capacity to provide retail mobile voice services throughout Qatar.
- Supply-side factors. Both operators offer mobile voice services at a uniform price and product specifications across Qatar. Given this, the Authority remains of the view that one observes sufficiently homogenous supply conditions with regard to: i) the area covered by a network; ii) the existence of legal and other regulatory instruments; and, iii) the competitive environment. This supports defining the relevant markets as national in scope.

3.1.3.4 Preliminary conclusion on Candidate Markets

The Authority has come to the preliminary view to consider individual mobile voice services (as well as pre-paid and post-paid plans) as part of a single product market.

Furthermore, the Authority believes the demand for and offering of mobile voice and broadband services are increasingly interlinked in Qatar. As such, these services will be considered jointly within a single product market.

However, due to prevailing differences in the demand-side and underlying competitive dynamics, the Authority has preliminary defined separate markets for mobile voice services for business customers and all remaining customers. Both markets are national in scope.

Therefore, the Authority has come to the preliminary view to define the following Candidate Markets for retail mobile voice (and broadband) services:

- Market for national mobile voice and broadband services – Residential customers
- Market for national mobile voice and broadband services – Business customers

3.1.4 Mobile broadband services

3.1.4.1 Previous market definitions

As part of the previous MDDD, retail national mobile broadband services formed part of single product market (M7), capturing all mobile broadband services for residential and business customers, independent of the technology used to deliver these services.[47] The market was national in scope.

Below the Authority assesses the need to amend the above market definition in the context of this MDDD based on stakeholder feedback and key market developments relevant to the services that are under consideration.

3.1.4.2 Stakeholders' views and key market developments

Neither **Ooredoo** nor **Vodafone** commented specifically on the mobile broadband market.

[47] This includes confined connectivity mobile broadband plans (i.e., separate mobile internet subscription for smartphones, but same SIM card as for mobile voice and data services), dedicated connectivity mobile broadband plans (i.e., data card subscription for mobile internet access via USB modem/dongle, etc.), and occasional mobile internet usage services (i.e., internet usage from smartphone from the same SIM card as for mobile voice and data services).

3.1.4.3 Preliminary assessment on the need for amending the previous market definitions

Retail mobile broadband services are currently offered by Ooredoo and Vodafone via the same mobile networks described in Section 3.1.3 above.

It is possible to differentiate individual mobile broadband services by usage profiles (i.e., mobile broadband services that allow occasional access to the Internet as part of a mobile voice plan; confined connectivity mobile broadband services – i.e. separate mobile broadband plans for smartphones or tables; and dedicated connectivity mobile broadband services in form of mobile broadband plan, which allows access to the Internet from a laptop or PC based on a dedicated SIM card and USB modem). In line with mobile voice services, mobile broadband services may also further be differentiated by customer segments, in particular between residential and business customers.
Therefore, several considerations need to be made when defining the relevant market and assessing the competitive dynamics of the market for retail mobile broadband services. These are as follows:

- The extent to which individual broadband services may constitute separate markets;
- The available substitutes for mobile broadband services (i.e., are fixed broadband services substitutes for mobile broadband services);
- The extent to which mobile voice and broadband services may form a single market;
- The extent to which services provided to residential and business customers form distinct markets; and
- The relevant geographic market (i.e. the need to consider sub-markets).

The Authority considers each of these issues in turn below.

Are individual mobile broadband services in the same market?
As for mobile voice services, there is a need to assess whether the three main mobile broadband service types (i.e., occasional usage, confined connectivity and dedicated connectivity services) form part of the same product market.

Again, there is a high degree of supply-side substitutability as all these services are delivered over the same network infrastructure and SIM cards. Furthermore, there is also a degree of demand-side substitutability as all these services allow the user to access the Internet from a mobile device. The Authority also understands that it is possible to use each service with different devices (i.e. dedicated and confined connectivity broadband plan SIM cards can be used, in theory, in smartphones, internet enabled tablets and / or USB modems). However, the current pricing structure may limit the degree of demand-side substitution in the event of a 5-10% SSNIP for any of these services (i.e., dedicated connectivity plans are commonly targeted at higher average usage profiles and may therefore not be economically attractive as a substitute for a lower usage, but cheaper confined connectivity or occasional usage plan[48]).

In light of the apparent supply-side and potential demand-side substitutability, the Authority preliminary considers all mobile broadband services within the same product market.

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[48] This is reflected in average usage observed for each of these services, with the average usage of dedicated connectivity plans being significantly higher than those of the other two mobile data services.

Are fixed broadband services a substitute for mobile broadband services?

Similar to voice services discussed in Section 3.1.3 above, there are also limited signs of mobile-to-fixed substitution for broadband services in Qatar. In particular, as for voice services, there are differences in product characteristics (i.e., data caps for mobile broadband services, application to different devices, and quality of service differences) that render these services complements, rather than substitutes, in particular for residential users. This is manifested in the significant take-up and usage of mobile broadband services and both mobile broadband and fixed broadband connections having continued to grow over the period 2011 to 2014 (i.e., CAGR of [✂]% and [✂]%, respectively).

Given the above, the Authority considers that it is unlikely that mobile broadband customers would switch in sufficient numbers to fixed broadband services to make a 5-10% SSNIP unprofitable. Therefore, the Authority preliminary concludes that mobile and fixed broadband services constitute separate product markets. This is in line with the previous MDDD findings.

Are mobile broadband and voice services in the same market?

As discussed in Section 3.1.3.3 above, whilst the Authority recognises that mobile voice and broadband services are different products and not demand-side substitutes for each other, given the increase bundling trend for both services suggests that end-users make choices based on the overall bundled price (rather than the prices of mobile voice or broadband services within the bundle). Given this increased competition in bundled packages, especially in the residential consumer segment, the Authority sees merits in defining a single market for mobile broadband services and national mobile voice services.

Do services for residential and business customers form the same product market?

Whilst the degree of supply-side substitution between mobile broadband offers for residential and business clients is in principle high, the Authority considers mobile broadband products for residential and business customers to be sufficiently different to justify separate product markets for each customer segment. This is mainly for the same reasons as outlined for national mobile voice services in Section 3.1.3.3 above and is driven by limited demand-side substitutability.

Large business customers require a higher quality of service and are more sensitive to product features, such as security and stability of connection. Ooredoo and Vodafone also offer additional mobile data services that are only available to large business customers, such as Machine-to-Machine services or Dedicated Access Point Names (APN)[49]. Following a 5-10% SSNIP, business customers requiring these services would not be able to substitute these with any of the standardized tariff options that are available for residential customers. In turn, residential customers would not be able to substitute a residential mobile broadband product with a mobile broadband for business customers as this would require them to have a business license.

[49] Machine to Machine (M2M) services allow machines and equipment that have some form of online connectivity to communicate with each other. Examples can be fleet management for logistics firms, monitoring and metering for the oil and gas industry, or payment services for exhibitions, couriers. APNs are gateways between a mobile network and another computer network such as the Internet. Dedicated APNs are often used as a secure means of connectivity for remote locations and are a mobile alternative to an IP VPN. It can further serve as a compliment for other services such as Corporate Internet, IP VPN and (fibre or microwave) access solutions.

While the Authority currently does not hold any information on customer switching behaviour for these services, the above suggests that the product offerings for the two types of customer segments are sufficiently distinctive to inhibit switching should there be a 5-10% SNIPP. Therefore, the Authority preliminarily defines separate markets for mobile broadband services for business and residential customers.

Defining the relevant geographic scope

For the same reasons as discussed in Section 3.1.3.3 above, the Authority preliminary concludes that a national geographic market is relevant for mobile broadband services.

3.1.4.4 Preliminary conclusion on Candidate Markets

The Authority has come to the preliminary view to consider individual mobile broadband services as part of a single product market.

Furthermore, the Authority believes the demand for, and offering of mobile voice and broadband services are increasingly interlinked in Qatar. As such, these services will be considered jointly within a single product market

However, due to prevailing differences in the demand-side and underlying competitive dynamics, the Authority has preliminary defined separate markets for mobile broadband services for business and residential customers. Both markets are national in scope.

Therefore, the Authority has come to the preliminary view to define the following Candidate Markets for retail mobile broadband (and voice) services:

- Market for national mobile voice and broadband services – Residential customers
- Market for national mobile voice and broadband services – Business customers

3.1.5 International outgoing call services at a fixed location and via a mobile device

3.1.5.1 Previous market definition

As part of the previous MDDD, a single product market for international outgoing call services (known as International Direct Dialling (IDD)) was defined (M3). This product market contained international outgoing calls at a fixed location and via mobile devices and captured both residential and business customers. It further included international outgoing calls made from pre-paid calling cards from both land lines and mobile devices.

3.1.5.2 Stakeholders' views and key market developments

Ooredoo commented that there appears to be strong substitution between calls in this market and VoIP calls, and provided evidence to support its claim, which shows reduction in Ooredoo's volumes in this market and an increase in data used for VoIP over Ooredoo's networks.[50] Ooredoo states this evidence is enough to justify including VoIP calls in this market.

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[50] See p. 14," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.

Vodafone argued that there is a potential to differentiate international call markets by destination. Competitive conditions can vary on a route-by-route basis (or potentially, by different route groups, such as, calls to GCC countries, the Indian sub-continent, Europe, etc).[51] However, Vodafone did not bring forward any concrete proposal on how it would like these markets to look like in Qatar.

3.1.5.3 Focal product for assessment

The Authority first considers the appropriate focal product for IDD services for the purpose of applying a hypothetical monopolist test. The 2011 MDDD defined markets for international outgoing call services at a fixed location and via a mobile device.

The Authority's focal products reflect the conclusions on national voice and data markets. For the reasons set out above 3.1.1 and 3.1.3 the Authority has preliminarily concluded that there are distinct markets for fixed and mobile national voice (and broadband) services, since there is evidence of a limited degree of substitution between each fixed and mobile service. Furthermore, the Authority's assessment of mobile voice and broadband the Authority preliminarily concluded that there were distinct markets for residential and business customers. This was due to the limited degree of substitution between residential mobile services and business services. Therefore the Authority's focal products for assessing IDD are:

- Mobile IDD for residential subscribers
- Mobile IDD for business subscribers
- Fixed IDD for residential subscribers
- Fixed IDD for business subscribers

3.1.5.4 Preliminary assessment of the market international outgoing call services at a fixed location and via a mobile device

In this section the Authority considers the market for international outgoing call services from a fixed location and from a mobile device. This includes an assessment of the product market and the geographic market.

In assessing the competitive constraints on IDD via fixed and mobile services; and for residential and business services the following factors are relevant.

- Are fixed and mobile IDD services in the same market?
- Are residential and business IDD in the same market?
- Are international calls via OTT services a competitive constraint for IDD in any of the candidate markets?
- Is supply side substitution likely?
- The geographic scope of the market.

Are fixed and mobile IDD services in the same market?

[51] P. 38, Competition in mobile telecommunications markets in Qatar, A REPORT PREPARED FOR VODAFONE QATAR, 05.2014

The Authority examines whether fixed and mobile IDD services are a substitute each other. It concludes that they are not a substitute for three reasons:

- **Different functionality**. Mobile IDD services offer different functionality to fixed IDD services. Mobile IDD services enable international calls from various locations through a personal device, whereas fixed IDD services enable international calls from a specific location. Fixed IDD services are therefore more geared towards household usage, whereas mobile IDD services represent personal and portable access to IDD services.
- **Higher fixed IDD prices.** From **Figure 1**, it is evident that average revenues per minute are higher for fixed IDD calls than for mobile IDD calls for residential subscribers. Change in average revenue per user can reflect rebalancing of tariffs, changing usage, however, assuming that calling patterns and price relativities have remained stable, then the decline in average revenue per minute can reflect declining prices. Mobile average revenue per minute has been falling by over [✂]% between 2011 and 2014, whereas fixed average revenue per minute has remained constant. Given the extent of difference in average revenue per minute, it is unlikely that a 5-10% increase in mobile tariff would lead to significant switching by customers to fixed IDD services.

Figure 1 Average revenue per minute for residential mobile and fixed IDD

[✂]

Source: CRA analysis based on Ooredoo and Vodafone data

The Authority preliminarily concludes that mobile IDD services are not in the same market as fixed IDD for residential or business subscribers.

Are residential and business IDD in the same market?

The Authority examines whether IDD services offered in business tariffs are substitutes for IDD services for residential subscribers; or vice versa. It concludes that business and residential tariffs are substitutes for each other. This is because:

- **Business tariffs for IDD services cannot be accessed by residential subscribers** because they are only available to firms with a trading licence. This limits the ability of residential subscribers to switch to a business tariff for mobile IDD services.
- **Business subscribers are likely to be less sensitive to price.** Business subscribers are typically less sensitive to price than residential subscribers. This is likely to mean that in the event of a SSNIP, they would be less likely to respond by reducing usage of business IDD services significantly and switching to a residential service.
- **Differences in service provision.** Although the quality of the call service itself is expected to be the same for business and residential mobile subscribers, the Authority considers that the quality of customer service may differ for residential and business services (for example business users have access to dedicated customer service advisors, and business users may be offered greater security and resilience of their services than residential customers). This suggests that there is some difference in the product itself. Such differences will increase the sustainability of a SSNIP because business customers are likely to value the higher quality of service and not respond to a SSNIP by substituting mobile business IDD for mobile residential IDD services.
- **Business IDD services are often bought within a bundle with national calls**, such that it would be unlikely that a subscriber with a business tariff for national calls, would subscribe to a residential tariff for IDD only, in addition to a business national voice tariff.

The Authority currently does not hold any information on customer switching behaviour for these services. In the absence of switching data, it is not clear if demand-side substitutability exists. Therefore the Authority preliminarily concludes that business IDD services are not in the same market as IDD for residential subscribers.

Are international calls via OTT services a competitive constraint for IDD in any of the candidate markets?

Some OTT services can be used to make international calls using internet-based unmanaged VoIP technology. The Authority examines whether they are substitutes for IDD services on a mobile or fixed network for either residential or business services.

There is a degree of substitution between residential mobile IDD and OTT services:

- **Trends in revenue and OTT uptake.** Although traffic for mobile IDD residential services has increased in recent years, the revenue for these services not increased proportionately, as shown in **Figure 2**Error! Reference source not found.. Consequently, the average revenue per minute has decreased significantly in recent years. This indicates a degree of increased competition which is partly explained by increased competition from Vodafone, but may be partly explained by increased competition from OTT services.

Figure 2 Combined residential mobile IDD traffic and revenue for Ooredoo and Vodafone

[✂]

Source: CRA analysis based on Ooredoo and Vodafone data

- **The popularity of OTT services.** The decline in average revenue per minute for mobile IDD services coincides with a period in which the competition between Ooredoo and Vodafone has intensified. The Authority does not have a time series data on use of OTT services but notes that growth in OTT services is likely to be correlated to growth in penetration of smartphones, increased network speeds, the gradual emergence of OTT apps, and growth in international use of OTT services. Evidence supplied by Ooredoo (**Figure 3**) shows that OTT services are also competing strongly with traditional voice, to the extent that there is a higher level of engagement with OTT voice services than with traditional voice services. This suggests that OTT services are constraining mobile IDD services for residential subscribers to the extent that a SSNIP would be unprofitable.

Figure 3 Engagement of OTT voice and traditional voice services

[✂]

Source: [✂]

- Evidence **of demand suggests** OTT has become a significant competitive constraint to traditional voice traffic. For example, Ooredoo’s residential fixed IDD traffic has fallen by

[✂] since Q1 2011[52] during the period of growth of OTT services. This would support the conclusion that customers substitute fixed IDD services for OTT services, and would still do so in the event of a SSNIP.

- **Service quality.** Historically, the quality of service of OTT VoIP services has generally been lower since they are dependent on the end-to-end quality of the internet connections and bandwidth limitations. Evidence of the growing demand of OTT VoIP services suggests residential customers using mobile IDD services on a residential tariff are not likely to be sensitive to the difference in quality. However, business users may be more sensitive to quality of service. While there are some OTT VoIP services aimed at businesses, the quality of service of these services still depends on the quality of the end to end internet connection).
- **Price sensitivity of expatriate workers.** Non-Qataris form 89% of the total population in Qatar, and 30% are blue collar non-Qataris.[53] Along with transient labourers, these individuals have low monthly individual expenditure on mobile phone services.[54] The Authority therefore considers that mobile residential subscribers are predominantly expatriates who are very price sensitive, and are likely to place a high value on the lower prices offered by OTT VoIP, compared with the higher quality of mobile IDD. In the event of a SSNIP for mobile IDD services on a residential tariff, the Authority would therefore expect these customers to switch to OTT services, which are generally cheap and easy to switch to for subscribers with mobile or fixed internet access.

For the reasons set out above the Authority preliminarily concludes that there is a degree of substitution between residential IDD (whether by mobile or fixed subscribers) and OTT services since:

- there is evidence of increase competitive constraints on pricing of residential IDD services;
- OTT services are increasing popular and [✂]. The high use of OTT services suggests that residential consumers do not difference in quality of OTT as a barrier to using the service.
- Expatriate workers who for the majority of the population in Qatar are particularly price sensitive, and will have a strong demand for calling to their home country.

The Authority does not consider OTT services to be substitutes for IDD services for business subscribers because of differences **in quality of service.** The fact that there are differences in quality between international calls using a fixed or mobile network, and an unmanaged VoIP service; and the fact that business customers are likely to be less price sensitive means that business consumers would be less likely to switch to VoIP and OTT is not a substitute for business users. VoIP through OTT applications tend to offer a lower quality connection, and very limited customer service. Since business customers are generally more sensitive to quality, both in terms of quality of connection and customer service, this is likely to limit the potential for switching from mobile business tariffs to OTT services.

Is supply side substitution likely?

In order to be included as a supply-side substitute, it would be necessary to demonstrate that a small price increase in the price of the focal product would incentivise firms in adjacent

[52] Vodafone did not provide data on business and residential split of fixed traffic.
[53] ictQatar Household Survey 2014, Figure 2.
[54] ictQatar Household Survey 2014, Figure 17.

markets to start supplying the focal product in a short space of time, without incurring sunk costs.

The Authority has considered supply-side substitution possibilities. There are no firms that currently active in adjacent markets to the focal products, which do not supply the respective focal product, and which could start supplying it at short notice without incurring sunk costs.

There are opportunities for firms to enter into the provision of OTT services which, as described above, would be a demand-side substitute for mobile IDD services for residential subscribers. For OTT firms to enter the international dial voice market, they would need an international user base with a strong presence in Qatar, and in the potential recipient countries (for example Nepal, India, Philippines, Egypt, Sri Lanka, etc.). However, firms would incur product development and marketing costs to begin supplying in the market. Furthermore, it is unlikely that a small increase in the price of IDD services in Qatar would incentivise firms to enter the market. While there are examples of recent entry in the market (for example WhatsApp has recently launched voice functionality), the Authority considers that entry in this market is related to WhatsApp's global strategy, rather than a reaction to competitive conditions in Qatar.

Therefore the Authority concludes that there are no opportunities for supply-side substitution in this market.

Geographic scope of the market

Both operators offer IDD voice services at a geographically uniform price and product specifications across Qatar. Given this, the Authority is of the view that one observes sufficiently homogenous supply conditions with regard to: i) the area covered by a network; ii) the existence of legal and other regulatory instruments; and, iii) the competitive environment. This supports defining the relevant markets as national in scope.

Customers would be unable to switch to a fixed or mobile IDD service which originated in another country. Furthermore, operators from other countries would be unable to supply IDD services originating in Qatar since suppliers of telecommunications services in Qatar require a licence.

For these reasons the Authority concludes that the markets for IDD (including international dialling via OTT) are national in scope.

3.1.5.5 *Preliminary conclusions on the market definitions for IDD services*

The Authority preliminarily concludes that there are four Candidate Markets in relation to international outgoing call services:

- International outgoing calls via a mobile device (including OTT services) by residential subscribers
- International outgoing calls via a mobile device by business subscribers
- International outgoing calls at a fixed location (including OTT services) by residential subscribers
- International outgoing calls at a fixed location by business subscribers

All markets are national in scope.

3.1.6 National and international leased lines

3.1.6.1 Previous market definition

As part of the previous MDDD, a single product market for retail leased lines services was defined (M5) including both national and international leased lines and associated services irrespective of the technology used to provide leased and dedicated capacity. The product market was national in scope.

3.1.6.2 Stakeholders' views and key market developments

Ooredoo opposes splitting this market into different speeds, different technologies or different consumer segments.[55] **Vodafone** did not comment specifically on this product market.

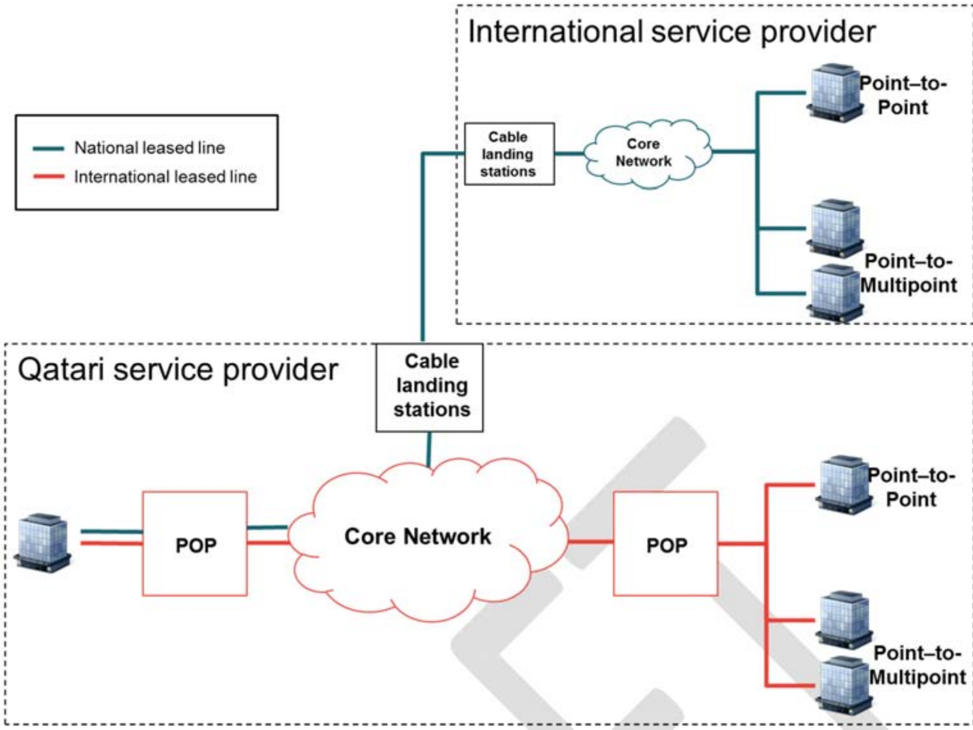
3.1.6.3 Preliminary assessment on the need for amending the previous market definitions

National and international leased line services offer physical and virtual dedicated capacity for large business users to allow conveying voice and data related traffic on a point-to-point or point-to-multipoint basis.

. The service offerings can vary in several ways. In particular:

- The dedicated bandwidth offered varies from 128Kbps to 150Mbps in Qatar.
- Whether the leased line service is based on physically dedicated capacity (using legacy TDM transmission technology) or virtual dedicated capacity provided over shared infrastructure (using ATM or IP-based technology).
- The dedicated bandwidth can be offered for a point-to-point connection between two sites or between multiple sites (i.e., point-to-multipoint).
- The dedicated bandwidth can be offered between points within Qatar only (i.e., national leased lines) and between Qatar and international points (i.e., international leased lines).

[55] See p. 14," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.



As such, there are the following considerations when defining the relevant product market for retail leased line services.

- The extent to which different bandwidths may constitute the same product market;
- Whether physical capacity and virtual capacity should be included in the same product market;
- The extent to which point-to-point and point-to-multipoint services should considered in separate product markets;
- Whether national and international leased lines should be consider in separate markets; and
- the geographic scope of the Candidate Market.[56]

<u>The need to consider different bandwidths in separate markets</u>

The Authority considers there to be both demand-side and supply-side substitution between different bandwidth of leased line services and all the various bandwidths available should be included in the same Candidate Market.

- <u>Supply-side substitution:</u> The different bandwidths of leased lines (both physically and virtual dedicated) are substitutable. This is because the underlying infrastructure required to provide these differing bandwidths would not need to change greatly, if at all (particularly in the access network which will be the largest element of cost if switching to higher bandwidth services).

[56] The Authority has also considered whether retail broadband services may constitute a substitute for leased lines. However, despite supply-side substitutability, the Authority does not consider these services to form substitutes on the demand side. This is due to significant differences in the functionality of both services. In particular, broadband services do not offer dedicated capacity at a similarly high quality to a leased line. They further rely on third party management, which reduces the flexibility provided to the end-user.

- Demand-side substitution: Further the incremental benefit of additional bandwidth may be small so a business customer may be more willing to substitute to lower bandwidths in response to an increase in price.

Given this, the Authority preliminary concludes to consider all leased line bandwidths within a single market.

The need to consider physical capacity and virtual capacity in separate markets

The Authority also considers that there is both demand-side and supply-side substitution for physically dedicated and virtual dedicated leased line services and these services should be included in the same product market.

- Supply-side substitution: There is likely to be a limited degree of supply-side substitution as although the same access network is used to provide both types of leased lines, the cost of migrating from TDM networks to packet based IP networks may be relatively high.
- Demand-side substitution: While both service types require different interface technologies, they offer the business customer the same functionalities and are therefore likely to be demand-side substitutes.

Given this, the Authority preliminary concludes to consider physical capacity and virtual capacity based leased line services within a single market.

The need to consider point-to-point and point-to-multi-point services in separate markets

On the basis of supply-side substitutability the Authority preliminary concludes that point-to-point and point-to-multipoint business connectivity services provided over virtual and physical leased lines are in the same product market.

- Demand-side substitution: The Authority considers there to be limited demand-side substitution from point-to-point leased lines to point-to-multipoint leased lines. This is because these two types of service offer different functionalities. However, if a business customer is buying several point-to-point leased lines to connect multiple sites, then the customer may be more willing to substitute to a multipoint virtual leased lines (i.e., there is demand-side substitutability between virtual and physical dedicated leased lines for multipoint connectivity).
- Supply-side substitution: For virtual leased line providers, there is a strong degree of supply-side substitutability between point-to-point and point-to-multipoint virtual leased line services as both use common core and access networks.

The need to consider national and international leased lines in separate markets

The Authority notes that there are different competitive conditions for national leased lines (dedicated leased lines which start and end within Qatar), and international leased lines (dedicated leased lines which start in Qatar, and end in another jurisdiction). This is because the demand of consumers is different, and the potential competitive constraints may be different.

- Supply-side substitution. There is a high degree of supply-side substitutability between both services, as both services are commonly provided by telecommunications service providers which operate national fixed networks and have access to international connectivity. As such, a provider of one of national leased line services, could easily supply international leased line service, in case of a 5-10% SSNIP of the former (and vice versa).

- Demand-side substitution. The Authority considers there to be no demand-side substitution between national and international leased lines. This is because these two types of service offer different connectivity (i.e., in an event of a 5-10% SSNIP for national leased lines, a customer will not be able to substitute this service for an international leased line. However, as discussed in the context of other retail services, separate product markets for these services are only required, if the underlying competitive dynamics are likely to differ for both services.

  Ooredoo remains the only SP of retail national leased lines in Qatar. However, the Authority understands that several international operators have Points of Presence (PoPs) in Qatar which enable them to offer retail international leased lines (based on buying the terminating segment from Ooredoo at the wholesale level). As such, customers wishing to purchase international leased lines may in theory have a choice beyond Ooredoo for these services. However, as these international operators are not licensed in Qatar, customers can only acquire these providers' services outside of Qatar. As the potential customer base is large corporate customers, the Authority considers it unlikely that this would constrain the access to these alternative providers of international leased lines. The Authority currently does not hold information on the relative pricing or product characteristics. As such, it cannot verify the degree of demand-side substitutability of these services to Ooredoo's offerings. However, it considers their existence to represent sufficient grounds to preliminary consider national and international leased line service as part of separate product markets.

Defining the relevant geographic scope

The starting point for the Authority's assessment is again its previous MDDD where the market for retail leased line services was defined as being national in scope. The Authority has then assessed whether there has been any significant change in the market since the last review which would require changing its position on retail leased line services. When doing so, the Authority has come to the preliminary conclusion that a national geographic market remains relevant for these services. This is based on a review of the following:

- Demand-side factors. The Authority has not seen any evidence that the nature of demand for pricing of retail leased line services varies significantly at a sub-national level. Ooredoo operates a ubiquitous fixed network nationally and therefore has the capacity to provide retail leased line services throughout Qatar.
- Supply-side factors. Ooredoo further offers these services at a uniform price and product specifications across Qatar. Given this, the Authority remains of the view that one observes sufficiently homogenous supply conditions with regard to: i) the area covered by a network; ii) the existence of legal and other regulatory instruments; and, iii) the competitive environment. This supports defining the relevant markets as national in scope.

3.1.6.4 Preliminary conclusion on Candidate Market

The Authority preliminary defines two Candidate Markets in relation to retail leased line services:

- Market for retail national leased line services irrespective of the technology used to provide the dedicated capacity
- Market for retail international leased line services irrespective of the technology used to provide the dedicated capacity

3.2 Wholesale services

Wholesale services form the input for delivering the retail services discussed above. This may be in form of self-supply or providing the wholesale service to other SPs. As such, a key objective of defining wholesale services in the telecommunications sector is to facilitate competition in the relevant retail markets.

Below, the Authority assess the potential Candidate Markets for wholesale services based on demand-side and supply-side characteristics, taking the market definitions underlying the previous MDDD as a starting point and then assessing the need to revise the relevant product or geographic dimension of the Candidate Market, taking into account stakeholder feedback, key relevant market developments since the last MDDD and the proposed Candidate Markets for the relevant retail services set out in Section 3.1 above.

3.2.1 Origination on public telecommunications networks at a fixed location

3.2.1.1 Previous market definition

As part of the previous MDDD, a single (technology neutral) product market for wholesale call origination services at a fixed location was defined (M8), capturing all call origination services from Ooredoo's copper and/or fibre networks.[57] In line with the relevant retail markets, this product market was national in scope.

3.2.1.2 Stakeholders' views and key market developments

The Authority is not aware of any stakeholder comments on this wholesale market.

3.2.1.3 Preliminary assessment on the need for amending the previous market definitions

Wholesale call origination services from a fixed location form an input to retail call services, irrespective of the destination (i.e., on-net and off-net calls terminating nationally or internationally), and narrowband dial-up Internet services. In the context of Qatar, this remains a service solely (self) supplied by Ooredoo.
While there is currently no demand for these services[58], the Authority sees merits in retaining a market for wholesale call origination form a fixed location in the set of Candidate Markets. This is to facilitate downstream competition in the retail fixed voice service market going forward. In particular, in absence of such market, alternative service providers would have to deploy their own nationwide access network or rely on alternative wholesale services (in particular, local loop unbundling for traditional fixed voice services and bitstream services for VoIP services). Both these alternatives entail significant investment and time to implement, which may render them less feasible in the Qatari context.

3.2.1.4 Preliminary conclusion on Candidate Markets

Given the above, the Authority has come to the preliminary view to define the following Candidate Market:

- Market for wholesale call origination services from a fixed location, independent of the technology used to deliver these services.

[57] This includes on-net and off-net call traffic and access to narrowband (dial-up) internet services.
[58] Whilst Vodafone also provides fixed call services at a retail level, this is based on wholesale bitstream access services from Oredoo or wholesale access to Qnbn's passive infrastructure. There are no alternative pre-paid calling card or carrier(pre) selection providers in Qatar at this point in time.

3.2.2 Termination on public telecommunications networks at a fixed location

3.2.2.1 Previous market definition

As part of the previous MDDD, a (technology neutral) product market for wholesale call termination services on individual networks at a fixed location was defined (M9), capturing all call termination services on Ooredoo's copper and/or fibre networks. In line with the relevant retail markets, this product market was national in scope.

3.2.2.2 Stakeholders' views and key market developments

The Authority is not aware of any stakeholder comments on this wholesale market.

3.2.2.3 Preliminary assessment on the need for amending the previous market definitions

Given the lack of stakeholder feedback and limited market developments requiring any amendments to the previous market definition, the Authority sees merits in retaining the market definition from the previous MDDD.

3.2.2.4 Preliminary conclusion on Candidate Markets

Given the above, the Authority has come to the preliminary view to define the following Candidate Market:

- Market for wholesale call termination services from a fixed location, independent of the technology used to deliver these services.

3.2.3 Physical Network Infrastructure Access

Physical network infrastructure access forms an input to providing all telecommunications services on a retail level. This can be provided based on self-supply (i.e., deploying own physical networks infrastructure) or gaining access to existing physical network infrastructure.

In general, wholesale network access can be in form of:

- 'passive access' (i.e., where access is only provided to passive infrastructure, such as ducts, dark fibre and network buildings/facilities); or
- 'active access' (i.e., access to a fibre link that remains under control of the network operator). As such, active access is downstream to passive access, since the latter can form an input to providing active access services.

For each of these two types of network access, there are several potential sub-levels, varying in the degree of investment required by the access seeker. For example, in the context of passive access, the access seeker can gain access to dark fibre or request access to the duct network in order to deploy its own fibre cable (subject to there being spare capacity in the duct network). Similarly, there are a range of active access options, depending on the amount of electronic equipment installed by the access seeker (rather than being provided by the access provider).

This Section sets out the relevant market definition for physical access to passive infrastructure only, covering both the access to the end-users location and the transmission part. The market for 'active access' services is then discussed in Section 3.2.4 below.

3.2.3.1 Previous market definition

As part of the previous MDDD, a single (technology neutral) product market for physical access to passive infrastructure for the supply of domestic and international telecommunications services was defined (M10). This included, but was not limited to access to and use of network and facilities, such as ducts, dark fibre, copper, sites, towers, international gateway facilities and other facilities.

3.2.3.2 Stakeholders' views and key market developments

Ooredoo argued that this market should be narrower than it currently is, and that it should be split into separate markets (or "sub-markets") for each application. Ooredoo advocates creating the following markets: [59]

- Duct access;
- Dark fibre and QNBN's GPON fibre;
- Sites and towers;
- International gateways, and;
- Colocation.

Ooredoo believes that a competition assessment of the above markets would show that Ooredoo only controls the duct access market. It argues that this is the only essential facility that forms a bottleneck in the upstream market in which Ooredoo has dominance.

Ooredoo also argues that copper and sub-loop access should not be considered as a market due to the following reasons: [60]

- Little relevance. Ooredoo claims that the anticipated migration from ADSL to fibre-based broadband services in the near future makes a copper market irrelevant for a forward looking approach.
- Little consequences. Ooredoo claims that even if such a market would be defined and regulated, it will not likely enhance competition in the retail fixed voice market.
- Little feasibility. Ooredoo claims that any remedies that might be applied to this market, such as local loop unbundling, are technically hard to implement.

Vodafone suggested that there should be a single market made of:[61]

- Unbundled network components;
- Dark fibre;
- Duct access;
- Ancillary facilities such as manholes and exchanges, and;
- Towers.

Vodafone argued that the above list is derived by following certain criteria that should be applied to identify which facilities need to be included in the market:[62]

- The facility is under the control of an incumbent operator;
- It is required by a competitor;
- It is technically or financially difficult or impossible to replicate; and
- It is feasible to share.

3.2.3.3 Preliminary assessment on the need for amending the previous market definitions

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[59] See p. 18-19, 30-33, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

[60] See p. 32, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

[61] P. 9, Vodafone letter to CRA, 2 October 2014.

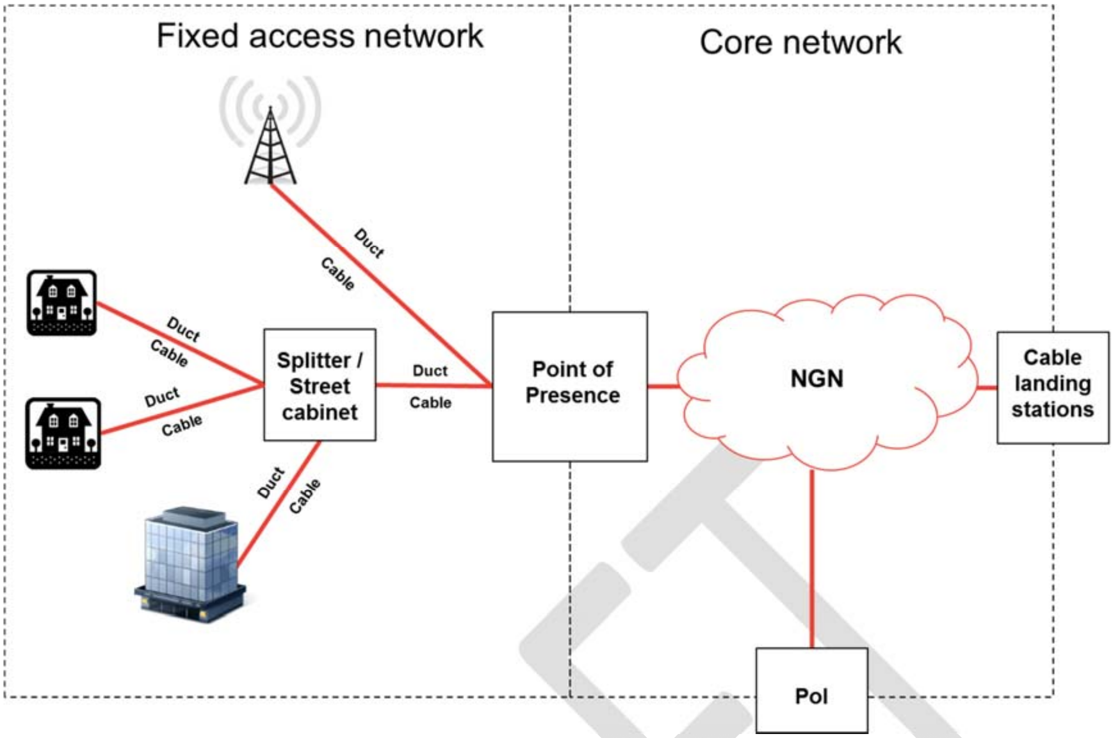
[62] P. 9, Vodafone letter to CRA, 2 October 2014.

The Authority recognises the merits of reviewing the current market definition for physical access to passive infrastructure to assess the need to define more granular sub-markets. This is to allow for a targeted regulatory approach which identifies and addresses all potential bottlenecks, whilst taking into account the current dynamics in the market.

As such, it sets out below its preliminary views on the relevant economic bottlenecks in the Qatari context by reviewing each part of fixed and mobile network infrastructure required to provide retail fixed telecommunications services, focussing on passive infrastructure components only. This is followed by its proposed Candidate Market for physical access to passive infrastructure. This assessment is based on the evidence received to date. The Authority will re-assess its preliminary views as part of Phase II in case of further evidence coming to light as part of this consultation process.

Physical network infrastructure access forms an input to providing all telecommunications services on a retail level. In particular:

- In order to supply **retail fixed voice and broadband services**, access to the end-users location and a transmission channel (i.e., a copper or fibre cable) capable of passing the call or data traffic in both directions and at rates that are appropriate for the relevant services is required. This could be achieved by deploying own physical core and access network infrastructure or by gaining access to existing infrastructure. Given the significant investment involved in deploying physical network infrastructure on a national basis (especially in the access network), relying on access to existing infrastructure constitutes an alternative means for alternative service providers to compete in the relevant retail markets.
- Physical network infrastructure access could also form an input to providing **retail mobile voice and broadband services.** In particular, gaining access to existing mobile sites, masts and towers (including associated collocation facilities) allows the access seeker to deploy its own active equipment in order to establish a radio access network (RAN) and / or to use it for microwave backhaul purposes. There is further an increasing demand for fibre-based backhaul services from mobile sites. This is due to the significant increase in data traffic carried over mobile networks, making microwave backhaul less feasible. Again, this could be achieved by deploying own physical infrastructure or by gaining access to existing infrastructure.
- Further to the above, service providers also require access to international gateway facilities to provide **international fixed and mobile voice services, international leased lines and fixed and mobile broadband services**. Again, this could be achieved by deploying own physical infrastructure or by gaining access to existing international gateway facilities from Ooredoo and Vodafone.



As such, access to physical network infrastructure can form an input to providing retail fixed voice, fixed broadband, mobile voice and mobile broadband services. This is summarised on the table below.

Table 4. Mapping of physical network infrastructure to retail services

	Fixed voice, broadband and leased lines services	Mobile voice and broadband services
Sites, masts & towers (incl. collocation facilities)	No	Yes
Fixed access network ducts & cables (incl. collocation facilities)	Yes	Yes (backhaul)
Core network ducts & cables (incl. collocation facilities)	Yes	Yes
International gateway facilities	Yes	Yes

However, as mentioned above, any regulation access of physical network infrastructure should focus on prevailing bottlenecks. As such, in the below, the Authority has reviewed each network infrastructure segment set out in the table above, to assess whether it constitutes a bottleneck in the Qatari context. In doing so, it has taken into consideration, amongst others:

- whether competing infrastructure or facilities exist or are likely to exist in the next three years[63], taking into account of the technical and financial replicability of the infrastructure or facilities;
- the ownership of the existing in infrastructure or facilities;
- whether the infrastructure is essential for providing retail telecommunications services; and

[63] i.e., the time period considered under this MDDD update.

- practical considerations (such as, whether the infrastructure or facilities is feasible to share).

In general, the Authority is of the preliminary view that in Qatar, economic bottlenecks remain in the access network infrastructure and the international gateway facilities (see network diagram above). This is because it requires significant investment, time and administrative effort to deploy a national access network or to attract international connectivity to an international gateway facility (i.e., to attract international terrestrial or sub-sea cables to land at the landing station). In contrast, given the geographic environment in Qatar, deploying a NGN core network requires significantly less investment. As such, core network infrastructure appears more replicable, assuming that access to ducts in the core network is granted. Given this, the remainder of this Section focusses on access to passive infrastructure in the fixed and mobile access network, ducts in general and to the international gateway facilities only.
However, the Authority wishes to ensure that its product market definition facilitates the provisioning of a workable passive access product offering and recognises that the demarcation point between access and core networks must be selected not only according to the technical specifications of the products but also according to economic aspects (i.e., the ability for access seekers to economically replicate the retail offers of the DSP, benefitting of the same economies of scales of the DSP.) As such, as part of this consultation process, it is seeking the views of stakeholders on the relevant demarcation point for passive infrastructure products.

<u>Sites, masts and towers (incl. collocation facilities)</u>
Gaining access to mobile sites, masts, and towers (including associated facilities) allows the access seeker to deploy its own active equipment on the site in order to establish a RAN and / or to use it for microwave backhaul purposes. It may further allow existing mobile service operators to re-optimise their RANs in response to changes in technology or traffic demand, without having to deploy new sites.

Both mobile service providers currently operate their own RAN (including associated mobile sites, masts and towers). Further to requiring non-trivial amount of capital investment to set-up, deploying or re-optimising a RAN can be constrained by limited access to suitable sites, building regulations and other requirements. This is particularly the case given the two existing nationwide RANs in Qatar. As such, this may constrain further entry or network re-optimisation efforts of existing mobile service providers going forward.

The Authority is currently not aware of any technical reasons which may constrain physical access to Ooredoo’s and Vodafone’s mobile sites, masts, towers and associated collocation facilities.

Given this, the Authority preliminary includes physical access to mobile masts, towers and monopoles as part of the Candidate Market for physical network infrastructure access. This includes access to the relevant ancillary facilities, such as, but not limited to access to the land, building, power and air-conditioning facilities relevant to these sites.

<u>Fixed access network and ducts (incl. collocation facilities)</u>
Access to fixed access network cables, ducts and associated collocation facilities forms an essential input to providing retail fixed voice, fixed broadband, leased lines, mobile voice and mobile broadband services.

There appears to be no supply-side substitutability for access to the physical infrastructure in the fixed access network. In particular, Ooredoo currently operates the only nationwide fixed access network in Qatar. Qnbn has also deployed passive GPON fibre infrastructure in certain parts of Qatar (i.e., in Barwa City, Barwa Commercial and parts of the Westbay). The Authority currently has limited insights on Qnbn's exact network roll-out plans. However, given its limited coverage to date, the Authority considers it unlikely that Qnbn will achieve significant network coverage within the next three years (i.e., the time horizon consider in this MDDD). Further, deploying a national fixed access network requires significant investment, time and administrative effort. Given the overall market size it remains unclear whether a second national fixed access network would be viable in Qatar. Even if it is viable, it appears unlikely that such a network would be deployed within the next three years (i.e., the timeframe considered in this MDDD update).
Given this, the Authority remains of the view that Ooredoo's fixed access network and ducts will remain a key bottleneck facility and thus ensuring regulated access to it an important enabler of competition in the relevant downstream markets. However, the Authority agrees with Ooredoo that in line with current market developments, there appears to be limited demand for access to Ooredoo's copper cable access network now or going forward. As such, the focus is on ensuring access to Ooredoo's (dark) fibre access network cables and ducts only.

As mentioned above, there are several potential forms of passive access, varying in the degree of investment required by the access seeker. In particular, the access seeker can gain access to dark fibre or request access to the duct network in order to deploy its own fibre cables. Both options are briefly discussed below.

- Access to dark fibre. A key component to provide fixed voice, broadband and leased lines services to end-users is to have connectivity in form of a copper or fibre cable from the end-user premises to the point of presence of alternative service providers, commonly occurring at the local exchange or switches, in order to hand over the traffic to that service provider. Fibre cables are also becoming increasing important to provide backhaul services for mobile voice and broadband services from access seeker's base stations to its core network.
  Under this passive access model, instead of deploying its own duct and fibre, the access seeker gains access to dark fibre in the access provider's access network. The access seeker then installs active equipment in the access provider's local exchanges or switches where it hands over the traffic. The access seeker may further require access to the land, exchange /switch buildings, ducts, trenches, joint boxes and poles relevant to the fibre cable access network.
- Access to ducts and trenches. Instead of gaining access to dark fibre, an access seeker can deploy its own fibre cables in the access provider's duct network (assuming there is spare capacity in the duct network). This requires more investment by the access seeker than under the dark fibre access model discussed above (i.e., it is further upstream). However, there are still clear cost savings from not having to deploy its own duct network.
  In order to gain access to ducts, access seekers further require access to the land, building, trenches and joint boxes relevant to the access duct network. The access seeker will further require access to and space in the relevant collocation facilities, including, amongst others, switches and exchanges.

The Authority currently holds no evidence on the current demand for or switching between either of the above access options. Further, the only alternative input for providing retail voice and broadband services is active (bitstream/VULA) access services, discussed in the next Section below. However, as Ooredoo is the sole provider of both these products, including active (bitstream/VULA) access services in this product market (based on substitutability grounds) has no bearing on the dominance designation. Also, whilst passive and active access products could form substitutes for one another, the passive access products remain essential for mobile backhaul services (which cannot be served via bitstream/VULA access).

Furthermore, the Authority is currently not aware of any technical reasons which may constrain physical access to Ooredoo's fixed access network ducts, fibre cables and associated collocation facilities.

Given the above, the Authority preliminary includes physical access to dark fibre in the access network and ducts as part of the Candidate Market for physical network infrastructure access. This includes, but is not limited to, duct and dark fibre required for:

- connecting end-user premises with the first point of demarcation between access and core network, defined accordingly to the product
- interconnection with licensed service providers (if not at local exchanges)
- fibre-based backhaul services for mobile service providers
- core network, in general

This further includes access to the relevant ancillary facilities, such as but not limited to, access to the land, building, trenches, joint boxes and poles relevant to the duct and cable network. It further includes access to and space in the relevant collocation facilities (i.e., local exchanges, point of interconnection).

International gateway facilities

Access to international gateway facilities is required to provide international voice, leased lines and broadband services. The relevant passive infrastructure component is the access to existing landing stations for submarine and terrestrial cables to allow for collocation and access to capacity on the cables landing at these facilities.

There are currently two cable landing stations in Qatar owned and operated by Ooredoo and Vodafone, respectively. The Authority understands that the international connectivity (i.e., the number of cables landing, the destinations and capacity available on each) at both landing stations is adequate and that both service providers currently only use their own facilities for international connectivity.

Whilst the current situation appears adequate to ensure self-supply by both service providers, ensuring fair and non-discriminatory access to both facilities would ensure that a potential new entrant would gain access to international capacity. This is important as setting up its own landing station and attracting international cables to land at these facilities is likely to be a resource and time intensive exercise and may not be feasible given the existing landing stations and cables and the overall market size in Qatar. It would further allow diversifying the international connectivity options for existing and prospective service providers.

The Authority is currently not aware of any technical reasons which may constrain collocating at the existing landing stations.

Given this, the Authority preliminary includes physical access to and ability to co-locate at existing cable landing stations as part of the Candidate Market for physical network infrastructure access.

3.2.3.4 Preliminary conclusion on Candidate Markets

As discussed above, the Authority has come to the preliminary view to include the following products in the Candidate Market for physical network infrastructure access:

- Physical access to mobile masts, towers and monopoles, including access to the relevant ancillary facilities and access to and space in the relevant collocation facilities.
- Physical access to dark fibre in the fixed access network and ducts, including access to the relevant ancillary facilities and access to and space in the relevant collocation facilities.
- Physical access to and collocation in cable landing stations.

3.2.4 Access to broadband services at fixed locations

Further to self-supply and passive network access discussed in Section 3.2.3 above, retail fixed broadband and VoIP services can be offered based on gaining access to a fibre link that remains under control of the network operator (i.e., active access).

3.2.4.1 Previous market definition

As part of the previous MDDD, a single (technology neutral) product market for wholesale broadband access services at a fixed location was defined (M11). This product market was national in scope.

3.2.4.2 Stakeholders' views and key market developments

Ooredoo commented that this market is downstream to the "physical network infrastructure Access" market(s), and should be recognised as such in its definition. It also argued that this market should be split into geographic dimensions:

- Access to broadband services in areas where Qnbn operates,
- Access to broadband services in areas where Qnbn is planning to operate; and
- Access to broadband services in areas where Qnbn neither operates nor plans to.

Ooredoo argues that only the last two are Relevant Markets, while the first is a Candidate Market that does not pass the TCT.[64]

Vodafone did not comment specifically on this market. However, as mentioned above, Vodafone stated that geographic markets are generally not feasible in the Qatari context, mainly on efficiency grounds. It suggests that the costs of implementing of regulation with

[64] See p. 19, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

regard to any geographic markets will outweigh any benefits. This was the case, regardless of whether the case for geographic markets exists in principle. [65]

3.2.4.3 Preliminary assessment on the need for amending the previous market definitions

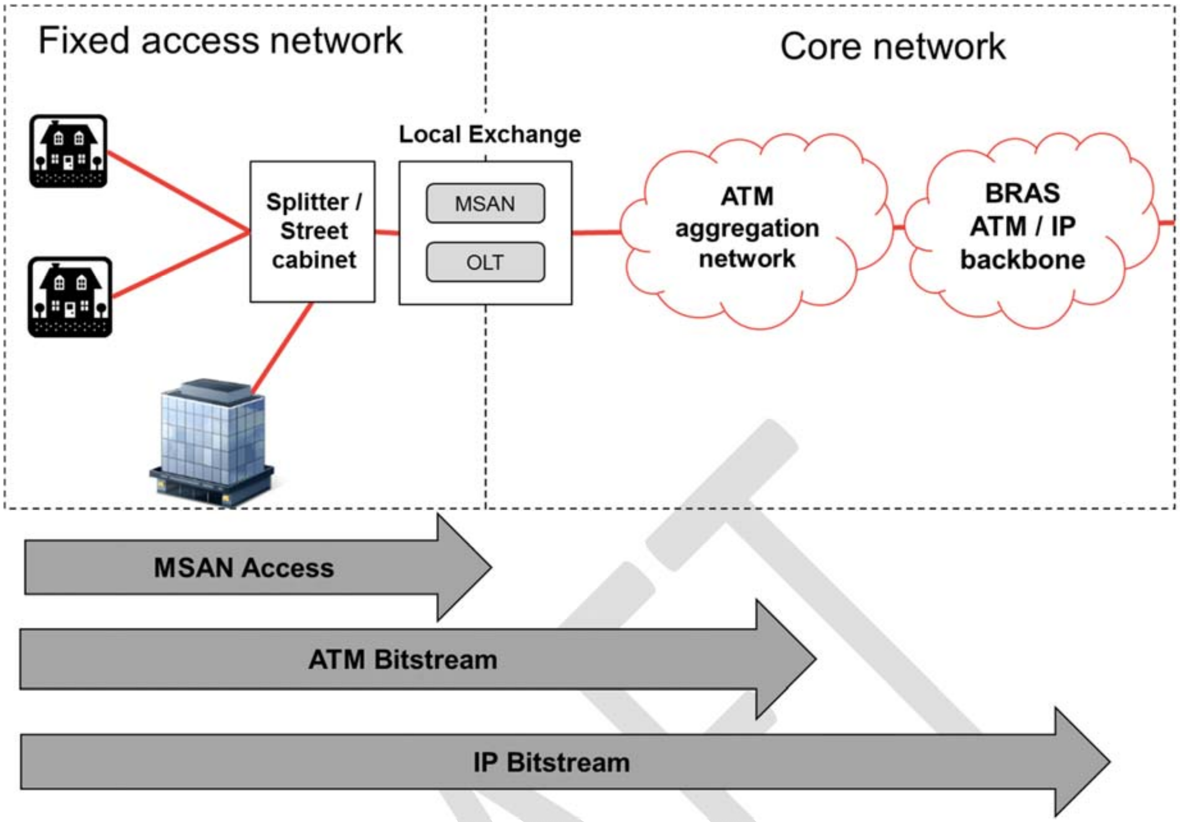
Active (bitstream/VULA) access service constitute an alternative input for providing retail fixed voice and broadband services to the passive access services, discussed in Section 3.2.3 above. It, in general, requires less investment by the access seeker than the passive access options since relying on more infrastructure from the access provider. It further commonly includes both the access link to the end-user and some form of backhaul capacity.

There is currently no supply-side substitutability for active (bitstream/VULA) access services in Qatar. Ooredoo currently operates the only nationwide fixed access network in Qatar and is therefore the sole provider of bitstream/VULA access services across Qatar. Qnbn's network deployment has been limited to date and the Authority considers it unlikely that Qnbn will achieve significant network coverage within the near future. Whilst in areas where there is dual infrastructure in place, access seekers have a choice and thus, the competitive dynamics does vary to the remaining areas, the Authority remains of the view that this does not warrant the application of sub-national markets at this point. Given Qnbn's limited deployment to date and uncertain deployment in the near future, any potential benefits from such an approach are unlikely to outweigh the costs of implementing and monitoring it. A national market is further in line with the proposed scope of the relevant downstream market (i.e., market for retail national fixed voice and broadband services).

As mentioned above, there are several potential forms of active (bitstream/VULA) access, varying in the degree of backhaul service included and thus, the level of investment required by the access seeker. In particular, there are two common forms of bitstream/VULA access:

- DSLAM access, where the traffic is handed-over at local exchange (i.e., the DSLAM, OLT or MSAN). No backhaul is included in this bitstream product. As such, this requires more up-front investment by the access seeker to self-supply the backhaul via its own core network infrastructure.
- ATM / IP bitstream, where the traffic is hand-over at a national switch or point of presence (i.e. the access provider offers both the access link and backhaul services via its core network). Depending on the core network infrastructure there could further be a difference in ATM bitstream and IP bitstream (i.e., whether the traffic gets handed-over at the ATM aggregation network or having been channelled through the IP backbone). These bitstream products require less investment by the access seeker, as more of the access provider's infrastructure is being used.

[65] P. 8, Vodafone letter to CRA, 2 October 2014.



The Authority currently holds limited evidence on the current demand for (or switching between) the above bitstream options in Qatar. As mentioned in the previous Section, it considers the fixed access network to constitute the key bottleneck facility, as core network infrastructure appears replicable in the context of Qatar. As such, it is of the preliminary view to delineate the market at the access network (i.e., to only include a MSAN bistream access in the relevant product market). However, the Authority also wishes to ensure that its product market definition facilitates the provisioning of a workable bitstream offering and recognises that the demarcation point must be selected not only according to the technical specifications of the products but also according to economic aspects (i.e., the ability for access seekers to economically replicate the retail offers of the DSP, benefitting of the same economies of scales of the DSP.) As such, as part of this consultation process, it is seeking the views of stakeholders on the need to include backhaul services in the bitstream product market (i.e., to include an ATM/IP bitstream service in the relevant product market).

3.2.4.4 Preliminary conclusion on Candidate Markets

The Authority has come to the preliminary view to define the following Candidate Markets:

- Market for wholesale broadband access at a fixed location (excluding any associated backhaul, services) independent of the technology used to deliver these services

3.2.5 Wholesale leased lines

Wholesale leased line services form an input to provide retail leased line services defined in Section 3.1.6 above. They may further be used, for example, to provide backhaul services (i.e., a mobile service provider may purchase a wholesale leased line to connect a mobile site to its backhaul network).

3.2.5.1 Previous market definition

In line with the relevant retail product market definitions, a single product market for wholesale leased line services was defined (M12) including both national and international leased lines and associated services irrespective of the technology used to provide leased and dedicated capacity. In line with relevant retail service, the product market was national in scope.

3.2.5.2 Stakeholders' views and key market developments

Ooredoo believed that, as identified within the 2003 European Commission Recommendation on Relevant Markets, wholesale leased lines should not be defined as a unique market. Rather, sufficiently different competitive conditions exist between the core, or trunk element of the leased lines, and the terminating segments, that these should constitute separate markets.[66] Ooredoo thus suggested that separate markets should be defined for product and geographic dimensions:

- Wholesale terminating trunk segments of leased lines;
- Wholesale terminating segments of leased lines where Qnbn operates;
- Wholesale terminating segments of leased lines where Qnbn plans to operate; and
- Wholesale terminating segments of leased lines where Qnbn neither operates nor plans to operate.

Ooredoo then argued that only the second and third markets are Relevant Markets, while the others are Candidate Markets that do not pass the TCT.

Vodafone did not comment on this product market, in particular. However, as mentioned above, it did make a general statement that geographic sub-markets are not feasible in the context of Qatar.[67]

3.2.5.3 Preliminary assessment on the need for amending the previous market definitions

<u>Relevant product scope</u>

As set out in Section 3.1.6 above, for the relevant retail lease line product markets, the Authority preliminary concluded that physical point-to-point leased lines, as well as point-to-point and point-to-multipoint virtual leased lines, along with all bandwidths of these services, should be included in the same Candidate Market. The Authority did, however, preliminary define separate product markets for national and international leased lines.

As substitution at the retail level is likely to drive substitution at the wholesale level for these services, the Authority preliminary concludes that at similar product scope should be adopted at the wholesale level (i.e., separate product markets for national and international leased lines only).

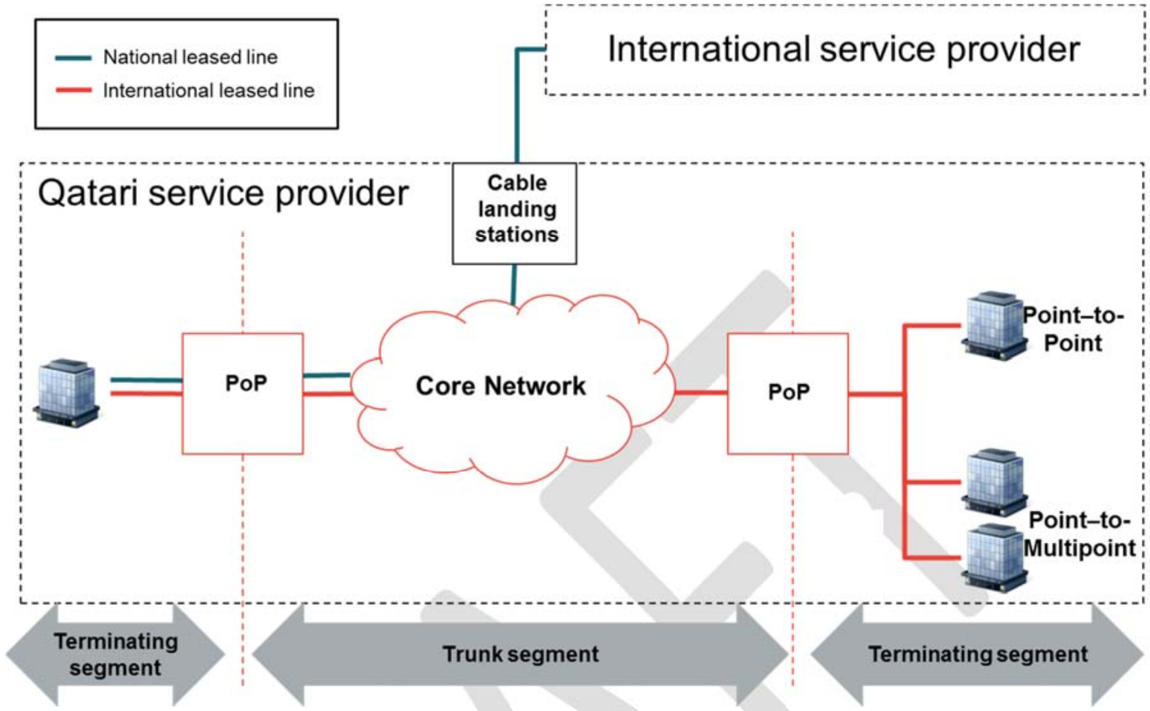
As for other wholesale services discussed above, the Authority considers it important to focus any ex-ante regulation on key bottlenecks only. As such, it has reviewed two key components of wholesale leased lines to assess the competitive dynamics in each.

- The <u>terminating segments</u> of a leased line refer to the part of the leased line from the customer location to the PoP and correspond to the local access part of the network (i.e., there are two terminating segments in national leased lines and one national terminating segment in international leased line services).

[66] See p. 20, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

[67] P. 8, Vodafone letter to CRA, 2 October 2014.

- The trunk segment of a leased line refers to the core network infrastructure part of the dedicated capacity (i.e., for the transit between PoPs or between the PoP and the international gateway).



There is limited scope for demand and supply-side substitution between trunk and terminating segments.

- Demand-side substitution is limited because trunk and terminating segments fulfil different functions and both are needed either for a service provider to offer an end-to-end retail leased line service or to provide backhaul services for its own network.
- There is limited scope for supply-side substitution given the high level of sunk costs required to deploy an access network. That is, a service provider offering the trunk segments of leased lines would need to undertake significant investment if it wished to also provide terminating segments. As mentioned in the context of physical access to network infrastructure, whilst the Authority recognises that there only one provider of wholesale leased lines services in Qatar, it is of the preliminary view that only the access network constitutes an economic bottleneck. Given the geographic environment in Qatar, deploying a NGN core network requires significantly less investment and thus appears replicable within the timeframe considered in this MDDD update.

Given this, the Authority preliminary defines separate product markets for the terminating and trunk segments of wholesale leased line services.

Relevant geographic scope

In line with the relevant retail market and other wholesale markets discussed above, the Authority remains of the view that all wholesale lease line related product markets are national in scope.

3.2.5.4 Preliminary conclusion on Candidate Markets

Based on its assessment to date, the Authority has come to the preliminary conclusion to define the following Candidate Markets for wholesale leased line services:

- Market for the terminating segment of (national and international) wholesale leased lines services, independent of the technology used to deliver these services.
- Market for the national trunk segment of (national and international) wholesale leased lines services, independent of the technology used to deliver these services.
- Marker for international transit segment of international wholesale leased lines services (i.e., the transit capacity from the international gateway to the PoP of the service provider offering the terminating segment of the international leased line).

3.2.6 Access and origination on public mobile networks

As part of the previous MDDD, a single product market for wholesale access and call origination services on mobile networks was defined (M13), capturing all access and origination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls) on Ooredoo's and Vodafone's mobile networks. A single product market for access and origination services was considered to reflect the bundled offering of these services on a retail level and the resulting need for any new downstream provider (i.e., MVNO rather than additional network operator) to gain access to these wholesale services on a regulated basis. Given the small geography of Qatar and as both service providers interconnect directly, the Authority did not define a market for wholesale transit services.

In line with the relevant retail markets, this product market was national in scope.

3.2.6.1 Stakeholders' views and key market developments

Only limited feedback from stakeholders was received on this product market. In particular, Ooredoo did not explicitly comment on whether this should be considered as a Candidate Market, but rather explained why it believes this market should not pass the TCT.[68]

3.2.6.2 Preliminary assessment on the need for amending the previous market definitions

The Authority recognises the limited demand for these wholesale services to date. However, the principle justification and market dynamics remain unchanged to those underpinning the previous MDDD. Given this, and the limited stakeholder feedback, the Authority considers it adequate to retain the market definition from the previous MDDD.

3.2.6.3 Preliminary conclusion on Candidate Markets

Based on its assessment to date, the Authority has come to the preliminary conclusion to define the Candidate Market as wholesale access and origination services on mobile networks.[69]

3.2.7 Termination on public mobile networks

As part of the previous MDDD, a single product market for wholesale termination services on individual mobile networks was defined (M14), capturing all termination service (i.e., this

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[68] See p. 20, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

[69] This market again covers all access and origination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls)

includes, but is not limited to voice calls, SMS, MMS and video calls) on Ooredoo's and Vodafone's mobile networks, respectively. In line with the relevant retail markets, this product market was national in scope.

Note that, given the geographic structure in Qatar and as both SP interconnect directly, the Authority did not define a market for wholesale transit services.

3.2.7.1 Stakeholders' views and key market developments

Limited stakeholder comments have been made on this market, with only Ooredoo arguing in favour of keeping this market defined as previously.[70]

3.2.7.2 Preliminary assessment on the need for amending the previous market definitions

Given the limited stakeholder feedback and market developments requiring any amendments to the previous market definition, the Authority sees merits in retaining the market definition from the previous MDDD.

3.2.7.3 Preliminary conclusion on Candidate Market

Based on its assessment to date, the Authority has come to the preliminary conclusion to define the Candidate Market as wholesale call termination services on individual mobile networks.[71]

3.3 Resulting list of proposed Candidate Markets

The table below sets out the proposed product and geographic scope of each Candidate Market discussed in Section 3.1 and Section 3.2 above.

Table 5. Proposed Candidate Markets

	Candidate Market	Proposed product scope	Proposed geographic scope
Retail services			
1	Retail national fixed voice and broadband services	Fixed access, national calls and fixed broadband services for residential and business customers	National
2	Retail national mobile voice and broadband services – Residential customers	Mobile access, national calls, messaging and mobile broadband services for residential customers	National
3	Retail national mobile voice and broadband services – Business customers	Mobile access, national calls, messaging and mobile broadband services for residential customers	National
4	Retail international outgoing call services at a fixed location - Residential customers	IDD call services from a fixed location and international calling via OTT-based services	National
5	Retail international outgoing call services via a mobile device - Residential customers	IDD call services via mobile devices and international calling via OTT-based services	National

[70] See p. 20, "Ooredoo Request for the Initiation of In-depth Review of Relevant Markets and the Re-Assessment of Dominance Designations", 16.04.2014

[71] This market again covers all termination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls)

6	Retail international outgoing call via a fixed location - Business customers	IDD call services via mobile devices	National
7	Retail international outgoing call services via a mobile device – Business customers	IDD call services from a fixed location	National
8	Retail national leased lines services	National leased lines	National
9	Retail international leased lines services	National leased lines	National
Wholesale services			
10	Wholesale call origination on public telecommunications networks at a fixed location	Includes all call origination services on Ooredoo's fixed network, independent of the technology used to deliver these services [72]	National
11	Wholesale call termination on individual telecommunications networks at a fixed location	Includes all call termination services on Ooredoo's fixed network, independent of the technology used to deliver these services [73]	National
12	Physical access to network infrastructure	Sub-markets: • Access to Ooredoo's and Vodafone's mobile sites, masts, towers, including relevant ancillary facilities and collocation space • Access to Ooredoo's access network dark fibre, ducts, relevant ancillary facilities and collocation space • Access to and ability to co-locate at Ooredoo's and Vodafone's cable landing stations	National
13	Wholesale broadband access at a fixed location	Wholesale broadband access services at a fixed location, independent of the technology used to deliver these services This excludes any associated backhaul or core network related services	National
14	Terminating segment of (national and international) wholesale leased lines services	Terminating segments of national and international wholesale leased lines, independent of technology used to deliver these services. Includes single and multipoint termination services and physical and virtual dedicated capacity services.	National
15	National trunk segment of wholesale leased lines services	National trunk segment of national and international	National

[72] This includes, but is not limited to voice calls and video calls.
[73] This includes, but is not limited to voice calls and video calls.

		wholesale leased lines, independent of technology used to deliver these services. Includes physical and virtual dedicated capacity services.	
16	International transit segment of international wholesale leased lines services	Transit capacity from the international gateway to the POP of the service provider offering the terminating segment of the international leased line. Includes physical and virtual dedicated capacity services.	National
17	Wholesale access and origination on public mobile networks	This market covers both access and origination services[74]	National
18	Wholesale termination on individual mobile networks	Includes all termination services[75] Separate markets for termination on Ooredoo's and Vodafone's mobile networks	National

3.4 Consultation question on the proposed Candidate Markets

The Authority invites stakeholders to comment on its proposed Candidates Markets set out in Section 3.1 to Section 3.3 above. In particular, the Authority seeks stakeholders' views on the following matters:

1. Do you agree with the proposed Candidate Market for retail national fixed voice and broadband services as set out in Section 3.1.1 and Section 3.1.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
2. Do you agree with the proposed Candidate Markets for retail national mobile voice and broadband services as set out in Section 3.1.3 and Section 3.1.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definitions for these services.
3. Do you agree with the proposed Candidate Markets for retail international outgoing call services at a fixed location and via a mobile device as set out in Section 3.1.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
4. Do you agree with the proposed Candidate Markets for retail national and international leased lines services as set out in Section 3.1.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
5. Do you agree with the proposed Candidate Markets for wholesale call origination on public telecommunications networks at a fixed location as set out in Section 3.2.1? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

[74] This includes, but is not limited to voice calls, SMS, MMS and video calls.
[75] This includes, but is not limited to voice calls, SMS, MMS and video calls.

6. Do you agree with the proposed Candidate Markets for wholesale call termination on individual telecommunications networks at a fixed location as set out in Section 3.2.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
7. Do you agree with the proposed Candidate Markets for wholesale physical network infrastructure access as set out in Section 3.2.3? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.
8. Do you agree with the proposed Candidate Markets for wholesale access to broadband services at fixed locations as set out in Section 3.2.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.
9. Do you agree with the proposed Candidate Markets for wholesale national and international leased lines as set out in Section 3.2.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for the trunk and terminating segments? Please evidence your response.
10. Do you agree with the proposed Candidate Markets for wholesale access and call origination on public mobile networks as set out in Section 3.2.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.
11. Do you agree with the proposed Candidate Markets for wholesale call termination on individual mobile networks as set out in Section 3.2.7? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

4 Assessment of Candidate Markets with competing infrastructure

This Section sets out the key findings of the Authority's preliminary assessment of whether certain of the proposed Candidate Markets set out in Section 3 are susceptible to ex-ante regulation (i.e., Step 2 of the revised MDDD process set out in Section 2 above).

4.1 Introduction

4.1.1 **The Authority's application of the TCT**

Section 2.3 explains that the Authority's preliminary conclusion is that only markets where the three criteria are cumulatively met should be subject to ex-ante regulation. Therefore, this Section contains the Authority's analysis and conclusions as to whether the markets defined in Section 3 pass the TCT (i.e. each of the three criteria is cumulatively met), and whether the Authority should assess whether any of the suppliers in the market are dominant.

- Where markets pass the TCT the Authority proposes in a subsequent consultation to assess whether any market participants have a dominant position in those markets.
- Where any of the markets do not pass the TCT the Authority proposes not to make a dominance assessment, and hence as part of this MDDD process will not apply further ex-ante regulation which relates to the dominance designation.

For the avoidance of doubt, ex-ante regulation which is not related to dominance designation will continue to apply. Furthermore, a finding that a market does not pass the TCT is not a finding that there is an absence of dominance in that market but simply denotes that the market identified is not susceptible to ex-ante regulation.

The Authority has considered the application of the TCT to the markets which in its previous MDDD the Authority termed "dynamic markets". These are markets which (in the case of mobile services) are characterised by competing infrastructures which enable competition. Furthermore, the emergence of OTT services has increased the potential for competition in some markets.

The analysis in this consultation therefore applies the TCT to the following six markets:

1. Retail national mobile voice and broadband services – Residential customers
2. Retail national mobile voice and broadband services – business customers
3. Retail international outgoing call services via a mobile device - Residential customers
4. Retail international outgoing call services at a fixed location - Residential customers
5. Retail international outgoing call via a fixed location - Business customers
6. Retail international outgoing call services at a mobile device – Business customers

The Authority considers that these markets are most likely to be exhibit market features and characteristics which suggest that ex-ante regulation is not appropriate.

The Authority does not apply the TCT to the remaining retail and wholesale markets in this consultation. The Authority's subsequent consultation scheduled for publication later this year, will apply the TCT to the remaining markets and make a dominance assessment on markets which it concludes are susceptible to ex-ante regulation.

4.1.2 Stakeholders comments on the application of the TCT

4.1.2.1 Mobile voice and data markets

Ooredoo drafted its position separately for calls and broadband in this market. It suggested that access and call services are "fully competitive"[76], and as such do not pass the TCT. Ooredoo provided the following arguments to support its claim regarding mobile access and calls: [77]

- Mobile Number Portability has also more or less eliminated any switching costs that could be faced by a new entrant;
- Vodafone gained substantial market shares;
- Ooredoo reduced its prices in this market; and
- VoIP and OTT services gain market share, especially in substituting text messages (Ooredoo argued that VoIP is part of this market, as discussed above).

Ooredoo also claimed that the mobile broadband element of this market is "significantly competitive"[78] and that it does not pass the TCT. It commented that:

- Vodafone gained substantial market share; and
- Ooredoo reduced its prices in this market, with a price per MB dropping by 90% from 2008 to 2013.

4.1.2.2 International call services

Ooredoo argued that the market for international call services market is "fully competitive"[79], and as such does not pass the TCT. It provided a table summarising the total number of minutes from fixed telephones, mobile telephones and VoIP, as shown in Table 2. It followed that with some historic evidence describing how prices it charges for international calls have decreased over time, whilst the volume has increased as well. [80]

Table 6. Ooredoo's evidence on market shares for fixed, mobile and VoIP minutes

Services	Number of minutes	% Ooredoo minutes
Fixed	[✂]	[✂]
Mobile	[✂]	[✂]
VoIP	[✂]	[✂]

Source: Ooredoo

[76] See p. 21," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[77] See p. 12, 23," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[78] See p. 16," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[79] See p. 21," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.
[80] See p. 15-16," Ooredoo Response To The Market Definition And Review Of The List Of The Relevant Markets Consultation Dated 15 September 2014", 2 October 2014.

There are a few uncertainties around the data Ooredoo provided. It is unclear whether the VoIP figure reported is specific to international calls and if so how Ooredoo inferred this data. Data carried by Ooredoo to foreign based VoIP applications such as Skype will likely travel to an international destination (such as a Skype server in Europe) to get connected, but the call itself might be terminated at a national or international location without Ooredoo being able to infer that. It is also unclear whether the data Ooredoo provided on VoIP minutes excludes video calls, which are common in VoIP communications, and whether Ooredoo considers voice calls as a good substitute to video calls. Finally, it is unclear whether the reported VoIP minutes are used by all customer segments alike. We would expect there to be variance between the accessibility and usage of different customer segments for VoIP.

4.2 Market for residential national mobile voice and broadband services

In this Section the Authority has considered the two product market for residential mobile voice and broadband services. The Authority's application of the TCT to this Candidate Market

The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.2.1.1 High and non-transitory barriers to entry

Many markets of equivalent size to Qatar's support more than two mobile networks, hence the Authority does not consider that barriers to entry are so high as to be *insurmountable*. In such markets, more than two competing infrastructures are possible.

Nonetheless, there may be barriers to entry for provision of residential and business mobile voice and broadband services which could relate to the sunk costs in investing in mobile network infrastructure. The scale of investments need to enter the markets may limit the scope for entry.

Furthermore the licensing arrangements in Qatar may provide a further barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority on the advice of the Government. In addition, the administrative process for acquiring a telecommunications licence can take time, meaning that likelihood of potential entrants requesting a licence would need to be imminent in order to potentially be considered as evidence of low barriers to entry.

Therefore the Authority concludes that there are high barriers to entry in the market for mobile residential services and mobile business services.

4.2.1.2 No tendency to competition

Low barriers to expansion, and no control of infrastructure not easily duplicated

In the markets for the supply of national mobile residential mobile voice and broadband services, and for business mobile voice and broadband services has low barriers to expansion, and Vodafone and Ooredoo both supply services using their own infrastructures. The barriers to expansion, of any of these existing suppliers appear to be low. Consumers benefit from two end to end infrastructures who compete strongly with each other to win customers.

Each could expand capacity to cater for demand currently being met by their rivals with minimal incremental investment.

Given that consumers benefit from competing operators who won their own infrastructures the market is likely to tend to competition, all other factors equal.

Market shares

The Authority has examined evidence on market share to assess the extent to which the market is tending to competition. Data from the parties indicates that Vodafone has quickly built market share.

Vodafone has a revenue share of voice and broadband traffic of [✂]%

Figure 4. Residential mobile voice and broadband share (revenues)

[✂]

Source: CRA analysis using Vodafone and Ooredoo data

Therefore the Authority considers that the market shares in both the residential market shows a tendency to competition.

Price trends and pricing behaviour

As set out above the Authority notes that there are a number of instances which suggest the parties in the market compete strongly with each other. For example Ooredoo offered a "pre-pay double credit" for subscribers who top up at a given point in each month, it provided an uplift in the available credit. Within a short time of making this offer, Vodafone responded by making a similar offer.

Conclusion

The Authority notes that these two markets have a tendency to competition, given the low barriers to expansion, and evidence on Vodafone's growing market share and the pricing behaviour.

4.2.1.3 Sufficiency of competition law

The Authority's view is that competition law will be sufficient to intervene in the market.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since the two mobile operator's operator their own infrastructures hence access remedies would not be required.

- Furthermore, the competition law tests which assess anti-competitive behaviour are sufficient to assess behaviour of market participants (which will not involve access pricing).
- It is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since, each operator control their own infrastructures.
- The presence of two competing mobile infrastructures suggests that using ex-ante remedies powers would not be needed to enable the long term the development of competition in the market as the market is already is tending to competition.

4.2.2 Conclusion of the application of the TCT to retail markets for residential national mobile voice and broadband services

For the reasons set out above the Authority preliminarily concludes that retail market for residential mobile voice and broadband services, are not susceptible to ex-ante regulation.
In particular this is because despite high barriers to entry that there is a tendency to competition in the market which is illustrated not just by Vodafone's successful entry and expansion but also the strong price competition between the operators.
Finally, the Authority considers that ex-post competition is likely to be sufficient in this market. In particular there is already a degree of competition in the market which will discipline market participants (notwithstanding that the Authority has not assessed market power in the market), and none of the parties rely on others for provision of access services to supply their products.

4.3 Market for business national mobile voice and broadband services

In this Section the Authority has considered the product market for business national mobile voice and broadband services.

4.3.1 The Authority's application of the TCT to this Candidate Market

The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.3.1.1 High and non-transitory barriers to entry

As explained in Section 4.2 there may be barriers to entry for provision of mobile voice and broadband services which could relate to the sunk costs in investing in mobile network infrastructure and potential licencing barriers. The scale of investments need to enter the markets may limit the scope for entry.

Therefore the Authority concludes that there are high barriers to entry in the market for mobile business services.

4.3.1.2 No tendency to competition

Low barriers to expansion, and no control of infrastructure not easily duplicated

In the markets for the supply of mobile business voice and broadband services has low barriers to expansion, and Vodafone and Ooredoo both supply services using their own infrastructures. Each could expand capacity to cater for demand currently being met by their rivals with minimal incremental investment.

Market shares

The Authority has examined evidence on market share to assess the extent to which the market is tending to competition. Data from the parties indicates that Vodafone has quickly built market share, though it has stabilised at [✂]%. In order to conclude that the market had a tendency to competition the Authority would need to be confident that by the end of the market review period (in approximately three to four years) that the market could be categorised as competitive, such that neither party was dominant.

Based on the current evolution of market shares, the Authority is unable to firmly conclude that Oordeoo's market share will fall below [✂]% in the next three to four years, partly as Vodafone's market share appears to have stabilised at the [✂]% level in the last year.

In the business voice and broadband service market Vodafone has a revenue share of [✂]%.

Figure 5. Business mobile voice and broadband market share (revenues)

[✂]

Source: CRA analysis using Vodafone and Ooredoo data

Therefore the Authority considers that the market shares in both the business market do not show a tendency to competition.

Conclusion

The Authority notes that the business mobile voice and broadband services does not yet have a tendency to competition, despite the low barriers to expansion, given that Vodafone's market share has stabilised at [✂]%.

4.3.1.3 Sufficiency of competition law

The Authority's view is that competition law will be sufficient to intervene in the market.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since the two mobile operator's operator their own infrastructures hence access remedies would not be required.

- Furthermore, the competition law tests which assess anti-competitive behaviour are sufficient to assess behaviour of market participants (which will not involve access pricing).
- It is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since, each operator control their own infrastructures, and OTT services do not rely on the mobile infrastructures (except to provide data access services to their subscribers).
- The presence of two competing mobile infrastructures and OTT services suggests that using ex-ante remedies powers would not be needed to enable the long term the development of competition in the market as the market is already is tending to competition.

4.3.2 Conclusion of the application of the TCT to retail markets for business national mobile voice and broadband services

In making its decision as to whether the market is susceptible to ex ante regulation the Authority concludes the following. First, the Authority notes that on the one hand the market is characterised by high barriers to entry. The Authority considers that ex-post competition may be sufficient in this market. In particular there is already a degree of competition in the market which will discipline market participants (notwithstanding that the Authority has not assessed market power in the market), and none of the parties rely on others for provision of access services to supply their products.

The Authority has considered whether Vodafone’s successful entry and expansion indicates that there is a tendency to competition in the coming three to four years. The Authority notes that Vodafone’s share has not grown in the previous twelve months, therefore the Authority cannot conclude, at this stage that the market will have a tendency to competition, absent evidence that Vodafone’s share will breach 40%. For the reasons set out above the Authority preliminarily concludes that retail markets for business mobile voice and broadband services are susceptible to ex-ante regulation.

4.4 Retail international outgoing call services via a mobile device and via an OTT service - Residential customers

4.4.1 The Authority’s application of the TCT to this Candidate Market

This market has been defined as the retail market for international call services from a residential mobile device including OTT services on a fixed or mobile device. The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.4.1.1 High and non-transitory barriers to entry

In this market there are a number of competing services. Calls can be made direct from a mobile device or via an OTT service.

As explained above barriers to entry could include sunk costs; control of infrastructure; technological advantages; easy or privileged access to capital; economies of scale or scope; vertical integration; barriers to develop distribution and sales networks or product or service differentiation.

The Authority considers the likely barriers in the mobile and OTT segments below.

Mobile services:

Many markets of equivalent size to Qatar's support more than two mobile networks; hence the Authority does not consider that barriers to entry are so high as to be *insurmountable*. In such markets, more than two competing infrastructures are possible.

Nonetheless, there may be barriers to entry for provision of mobile IDD services which could relate to the sunk costs in investing in mobile network infrastructure. The scale of investments need to enter a market to supply IDD from a mobile device may limit the scope for entry.

Furthermore the licensing arrangements in Qatar may provide a further barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority on the advice of the Government. Moreover, the administrative process for acquiring a telecommunications licence can take time, meaning that likelihood of potential entrants requesting a licence would need to be imminent in order to potentially be considered as evidence of low barriers to entry.

OTT services:

Smartphone penetration has rapidly increased the ease with which consumers can use OTT services in Qatar: It was reported that in 2013 65% of the population have smartphones[81] (the Authority understands that penetration is currently even higher) and 85% of the population have an internet connection in 2013. Given that this MDDD is a forward looking assessment of competition over the period of the coming years The Authority notes that Smartphone penetration is expected to increase. There are number of providers that supply international voice via OTTs. These services include Viber, Skype, and Tango. These services have relatively low sunk costs, as they either operate wholly over the public internet (in the case of VoIP to VoIP calls), or simply purchase wholesale termination services in the case of VoIP to fixed or mobile international calls. Many of these entrants are relatively new, for example Viber only launched internationally in 2010; and by 2015 it was used by [✄]% of Qatari's surveyed by Nielsen on behalf of Ooredoo[82].

This segment of the market has seen entry from a number of providers. Recent entry includes WhatsApp. However, there are barriers to entry such as building an international subscriber base.

Conclusion

Therefore the Authority preliminarily concludes that the cost of building a mobile network is high and the licensing arrangements lengthy, suggesting the idea of high and non-transitory barriers to entry in this segment of the market. However, the effective presence of OTTs in the market suggests that there are lower barriers to such an entry in this segment of the market

[81] Qatar's ICT Landscape 2014 page 5
[82] Ooredoo, MY LIFE MY MOBILE, April 2015

illustrated by the popularity in use of OTT services; the presence of recent entrants including Viber and WhatsApp.

4.4.1.2 No tendency to competition

There are a number of factors that can be relevant to an assessment of whether the market is likely to tend to competition. These include current and historic market shares; price trends and pricing behaviour; control of infrastructure not easily duplicated; products or services diversification (e.g. bundles products or services); barriers to expansion; and potential competition.

Low barriers to expansion, and no control of infrastructure not easily duplicated

The market for the supply of IDD to residential subscribers from a mobile device (including OTT services) is characterised by two mobile operators, who each compete on the basis of distinct infrastructures, and in addition the availability of a number of providers of OTT services which provide their services over the public internet.

Mobile networks differ from fixed networks in that it can be economically viable to replicate competing infrastructures. In many jurisdictions, including Qatar there are two or more competing networks. In these markets consumers benefit from strong network based competition, where suppliers compete on price, service, and quality.

Given that each supplier in the market is able to supply via its own proprietary infrastructure, and does not rely on the other market participant to a significant degree, the barriers to expansion, of any of these existing suppliers appear to be low. Each could expand capacity to cater for demand currently being met by their rivals with minimal incremental investment.

Market shares

The Authority has examined evidence on market share to assess the extent to which the market is tending to competition. The Authority has limited evidence on use and revenues related to calls for OTT services. The evidence presented by Ooredoo suggested that volume of OTT services is large (i.e., approximately [✂]% of all calls were on an OTT service). The Authority considers that OTT revenues are likely to be low, and principally relate to revenues for VoIP to fixed or VoIP to mobile, or advertising revenues. Therefore the volume based assessment of market share, may not be a reliable measure of market share.

Data from the parties indicates that Vodafone has quickly built market share.

Figure 6. Residential mobile IDD market shares by revenue

[✂]

Source: CRA analysis based on Ooredoo and Vodafone data

Data supplied by Ooredoo suggests that on average customers spend more minutes per day using OTT services to make voice call, though it was unknown the extent to which this related to national or international calls[83]. However, Ooredoo noted that the popularity of voice using OTT calls occurred at the same time as an [✂]% decrease in average prepay minutes per customer. The Authority notes that data on minutes per customer contains significant fluctuation and it is difficult to determine a clear trend.

[83] Ooredoo, MY LIFE MY MOBILE, April 2015,

Price trends and pricing behaviour

The Authority notes that there is a number of instances which suggest the parties in the market compete strongly with each other. For example Ooredoo offered a “pre-pay double credit” for subscribers who top up at a given point in each month, it provided an uplift in the available credit. Within a short time of making this offer, Vodafone responded by making a similar offer. Likewise, when Vodafone offered a reduction of the India calling rate, Ooredoo responded by making a matching offer.

Conclusion

The Authority concludes that the market for residential IDD from a mobile device or OTT service is tending to competition. The existence of two competing infrastructures means that consumers benefit from strong infrastructure based competition where suppliers compete strongly for consumers based on price, service and innovation. Barriers to expansion in markets where are two or more competing networks are low, therefore each operator is strongly incentivised to compete to attract the other’s subscribers.

In addition for residential mobile IDD from a mobile device benefits from a thriving OTT sector means that there is scope for competition.

The increasing proliferation of smartphones, and the popularity of OTT services, some of which have only recently launched suggests potential entry is possible. The pricing services of Vodafone and Ooredoo suggest that the parties compete strongly with each other.

4.4.1.3 Sufficiency of competition law

Competition law interventions are unlikely to be sufficient where the compliance requirements of an intervention to address a market failure are extensive or where frequent and/or timely intervention is indispensable. In this regard the Authority considers whether NRA intervention would be frequent, timely, or more detailed remedies would be required such as price controls. It also considers the difficulties that investigating authorities would face investigating conduct; whether irreparable damage could be caused by anti-competitive activity; or if ex-ante intervention is necessary to ensure the development of the market in the longer term.

Conclusion

The Authority’s view is that competition law will be sufficient to intervene in the market.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since the two mobile operator’s operate their own infrastructures, and OTT services do not rely on the mobile infrastructures (except to provide data access services to their subscribers) hence access remedies would not be required.

- Furthermore, the competition law tests which assess anti-competitive behaviour are sufficient to assess behaviour of market participants (which will not involve access pricing).

- It is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since, none of the entrants relies on another party for an essential input as the two mobile operators operator their own infrastructures, and OTT services do not rely on the mobile infrastructures (except to provide data access services to their subscribers).

- The presence of two competing mobile infrastructures and OTT services suggests that using ex-ante remedies powers would not be needed to enable the long term the development of competition in the market as the market is already is tending to competition.

4.4.2 Conclusion of the application of the TCT to retail market for international call services from a residential mobile device

For the reasons set out above, the Authority preliminarily concludes that the market for the retail supply of international outgoing calls via a mobile device by residential subscribers is not susceptible to ex-ante regulation.
In particular this is because the strong presence of OTT services in the market suggests barriers to entry are relatively low. The conclusions of the market definition are that residential consumer view mobile IDD and OTT as a substitute, hence it is not necessary to own a mobile network (or otherwise have access to a network) to enter the market.
There is a tendency to competition in the market which is illustrated not just by Vodafone's successful entry and expansion, but the growing popularity of OTT services.
Finally, the Authority considers that ex-post competition is likely to be sufficient in this market. In particular there is already a degree of competition in the market which will discipline market participants (notwithstanding that the Authority has not assessed market power in the market), and none of the parties rely on others for provision of access services to supply their products.

4.5 Retail international outgoing call via a mobile device - Business customers

4.5.1 The Authority's application of the TCT to this Candidate Market

This market has been defined as the retail market for international call services from a mobile device for businesses. The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.5.1.1 High and non-transitory barriers to entry

The Authority notes that, as explained above there are barriers to entry in the mobile IDD business market. Mobile operators would face high barriers to entry to enter the market for mobile services. OTT services are not considered by the Authority to be part of the market for Retail international outgoing call via a mobile device for business customers. The Authority concludes therefore that there are barriers to entry in this market.

4.5.1.2 No tendency to competition

The Authority notes that since entering the market for business mobile IDD services, Vodafone has increased its market share. It now has a market share of [✂]% based on revenues. Vodafone's share of business mobile traffic is much higher at around [✂]%.

Figure 7. Business mobile IDD market shares (revenue)

[✂]

Source: CRA analysis based on Ooredoo and Vodafone data

The Authority considers that this is evidence that the market tends to competition.

4.5.1.3 Sufficiency of competition law

For the reasons set out above in Section 4.2.1.3, the Authority considers that competition law is sufficient to investigate and remedy anti-competitive behaviour in the market for retail international outgoing call via a mobile device to business customers.

4.5.1.4 Conclusion

The Authority therefore concludes that the market for mobile IDD for business subscribers is not susceptible for ex-ante regulation. In particular, though the market has high barriers to entry, the assessment of market shares suggest that market tends to competition. Furthermore, the Authority concludes that ex-post competition is sufficient in this market.

4.6 Retail international outgoing call services at a fixed location and via a an OTT service for residential customers

4.6.1 The Authority's application of the TCT to this Candidate Market

This market has been defined as the retail market for international call services from a residential fixed location including OTT services on a fixed or mobile device. The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.6.1.1 High and non-transitory barriers to entry

The Authority considers whether there are high barriers to entry in the market for international outgoing call services at a fixed location and via an OTT service.

International calls from a fixed location

The Authority considers that there are significant barriers to entry for providers of international outgoing call services at a fixed location. These include the sunk costs of building a competing fixed infrastructure. The Authority notes that there is no provision of retail international outgoing call services at a fixed location using wholesale access products provided by Ooredoo.

OTT services

For the reasons set out above (at Section 4.2), the Authority concludes that barriers to entry for OTT services may be lower. Entrants have joined the market in recent years, including most recently WhatsApp.

Therefore the Authority preliminarily concludes that the cost of building a fixed network are high and the licensing arrangements lengthy, suggesting the idea of high and non-transitory barriers to entry in this segment of the market. However, the effective presence of OTTs in the market suggests that there are lower barriers to such an entry in this segment of the market illustrated by the popularity in use of OTT services; the presence of recent entrants including Viber and WhatsApp.

4.6.1.2 No tendency to competition

The Authority has considered whether the market for outgoing call services at a fixed location and via an OTT service for business customers has a tendency to competition. In doing so it has considered market shares, low barriers to expansion, and no control of infrastructure not easily duplicated.

Ooredoo has a [✂]% of the share of fixed IDD as Vodafone has very low fixed customer based. However, Ooredoo also faces competition from OTT services. The Authority is unable to assess the precise market share including both fixed IDD services and OTT IDD services. ✂However it notes that since Q1 2011 to Q1 2015 Ooredoo's volume of residential fixed IDD services has declined by [✂]%[84] suggesting that residential fixed consumers increasingly use OTT services.

Though the pricing trends suggested by the average revenue per minute for residential fixed services has remained relatively stable in the face of apparent competition from OTT services. This suggests that Ooredoo faces a limited competitive constraint from OTT services.

Figure 8. Revenue per minute Ooredoo

[✂]

Source: CRA analysis based on Ooredoo data

For this reason the Authority concludes that the market does not appear to have a tendency to competition. This is because Ooredoo has a [✂]% share in the fixed IDD segment of the market. Though it is difficult to accurately measure market shares in the market for fixed IDD since OTT revenues are likely to be small compared to fixed revenues. Furthermore the Authority notes that there has been relatively little impact on the revenue per minute of fixed services in contrast to the revenue per minute of mobile services.

There are relatively low barriers to entry on the OTT segment of the market, and the rapid migration of fixed residential IDD to OTT suggest a degree of competition in the market. However, the fact that the average revenue per user has remained relatively flat (in contrast to the declining average revenue per mobile subscriber), which suggests that OTT services may not provide a strong competitive constraint to the remaining users of fixed IDD services.

4.6.1.3 Sufficiency of competition law

[84] Ooredoo information request.

The Authority's view is that competition law is not sufficient to intervene in the market.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market from OTT services. (notwithstanding that the Authority has not assessed whether any supplier is dominant).
- However, were remedies are needed they may include access remedies for to increase competition in the provision of fixed services. Such remedies are complex to design and administer.
- Furthermore, it is possible that Ooredoo could use its strong position in the fixed segment of the market (where it has [✂]% of volumes) to prohibit entry in the fixed residential IDD market which could further impede competition in this market. Conclusion

The Authority concludes that though the market exhibits a degree of competition as a result of the presence of OTT services in the market, that on balance it passes the TCT and is susceptible to ex-ante regulation. There are very high non-transitory barriers to entry in the fixed segment of the market, and though there has been a migration from residential fixed IDD to OTT services, this does not appear to have made a significant impact on the revenues per minute of fixed residential services indicating that the degree of competition may be weak. Finally, competition law may not be sufficient in this market as the fixed infrastructure does not face a strong direct competitor (Vodafone has a [✂]% share).

4.7 Retail international outgoing call services at a fixed location for business customers

This market has been defined as the retail market for international call services from a fixed location. In this market the only provider is Ooredoo is the only provider with a very high market share.

4.7.1.1 The Authority's application of the TCT to this Candidate Market

The Authority considers the application of the TCT to the market below considering in turn:

- High and non-transitory barriers to entry
- No tendency to competition
- Sufficiency of competition law

4.7.1.2 High and non-transitory barriers to entry

The Authority concludes that there are high and non-transitory barriers to providing a fixed network which prevent entry into the market. The Authority notes that in a limited number of geographic locations Vodafone provides fixed services.

However, the costs of entering the market and building a new fixed network are high. In particular the sunk costs that Ooredoo has already invested in its ubiquitous fixed network, and its existing subscriber base represent a significant barrier to entry for entrant fixed competitors.

4.7.1.3 No tendency to competition

The Authority concludes that there is no tendency to competition. Where there are a limited number of areas where there are two competing infrastructures for the vast majority of consumers there is only one available choice of fixed network (Ooredoo's) to provide IDD to businesses from a fixed location. This is illustrated by Ooredoo's volume based market share of business IDD of [✂]%.

4.7.1.4 Sufficiency of competition law

The Authority concludes that competition law is not sufficient to intervene in the market.

Given that Ooredoo's dominance is related to its control of the only ubiquitous national fixed infrastructure, it is possible that any remedies that might be necessary in this market could include access remedies for to increase competition in the provision of fixed services. Such remedies are complex to design and administer.

Furthermore, it is possible that Ooredoo could use its strong position this market (where it has [✂]% of volumes) to prohibit entry in the fixed residential IDD market which could further impede competition in this market.

4.7.2 Preliminary conclusion

For these reasons the Authority concludes that this market is susceptible for ex-ante regulation since there are very high and non-transitory barriers to entry, there is no tendency to competition, and competition law is not sufficient to intervene in the market.

4.8 Remaining candidate markets

This consultation does not apply the TCT applies to the remaining markets identified in Section 3.3. The Authority's subsequent consultation scheduled for publication later this year, will apply the TCT to the remaining markets.

4.9 Consultation question on the assessment of Candidate Markets with competing infrastructure

The Authority invites stakeholders to comment on its application of the TCT to the Candidates Markets with competing infrastructure set out in Section 4.2 to Section 4.6 above. In particular, the Authority seeks stakeholders' views on the following matters:

1. Do you agree with the Authority's application of the TCT to markets for residential national mobile voice and broadband services, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
2. Do you agree with the Authority's application of the TCT to markets for business national mobile voice and broadband services, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
3. Do you agree with the Authority's application of the TCT to retail market for international call services from a residential mobile device and via an OTT service, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
4. Do you agree with the Authority's application of the TCT to retail international outgoing call via a mobile device for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5. Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location and via a an OTT service for residential customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
6. Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location for business customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5 Next steps

Below the Authority provides a high-level overview of the key next steps in the overall process of updating the MDDD findings.

As set out in **Table 7** below, the Authority intends to publish its Final Decision on its market definitions and review of Candidate Markets in mid June 2015. This is followed by an information request to service providers on the Relevant Markets also in June 2015.
A consultation on the Authority's preliminary findings on any dominance designation and required ex-ante regulation in the Relevant Markets is expected to be issued in September 2015, followed by a Final Decision on this matter in December 2015.

Table 7. Key next steps – MDDD process

Next step	Expected timing
Phase I - Market definition and review of Candidate Markets	
Consultation ends	7 June 2015
Final decision issued	Mid June 2015
Phase II - Dominance Designation and Remedies of Relevant Markets	
Information request issued	Mid June 2015
Consultation on preliminary findings	Early September 2015
Final decision issued	December 2015

Annex I Glossary, acronyms and abbreviations

ARPU	Average revenue per user
Candidate Markets	As defined by the MDDD process
CRA	Communications Regulatory Authority
Competition Powers	The Authority's ability to regulate ex-post
Day	Refers to a calendar day and not working day, unless specifically mentioned
DSP	Dominant Service Provider
Dynamic Markets	As defined by the MDDD process
Executive By-Law	Executive By-Law for the Telecommunications Law 2009
IDD	International Direct Dialing
LTE	Long Term Evolution (4G)
MDDD	Market Definition and Dominance Designation
MSAN	Multi Service Access Node
MVNO	Mobile Virtual Network Operator
NGN	Next Generation Network (fiber)
OLT	Optical Line Termination
Ooredoo	Licensed service provider in Qatar for fixed and mobile services
OTT	Over-The-Top services
PoP	Point-of-Presence
PSTN	Public Switched Telephone Network (copper)
Public Telecommunications Services	Any form of transmission, emission or reception of signs, signals, writing, text, images, sounds or other intelligence provided by means of a telecommunications network to a third party offered to the public
Qnbn	Qatar National Broadband Network: passive fiber infrastructure available on an open-access basis
RAN	Radio Access Network
Relevant Market	As defined by the MDDD process
SIM	Subscriber Identity Module
SMP	Significant Market Power
SP	Service Provider
SSNIP	Small but Significant Non-transitory Increase in Price
TCT	Three Criteria Test
USB	Universal Serial Bus standard
VAS	Value Added Services
Vodafone	Licensed service provider in Qatar for fixed and mobile services
VoIP	Voice-over-Internet Protocol

Annex II Background to this consultation

Decree Law 34 of 2006 on the promulgation of the Telecommunications Law and the Telecommunications Law (Telecommunications Law) explicitly provide for the designation of Dominant Service Providers (DSP) in Articles 19.5, 27, 23, 40 and 42. Article 40(3) of the Telecommunications Law provides for Authority to determine the criteria that must be applied in the designation of Service Providers (SP) as having Significant Market Power (SMP), or being a DSP in identified telecommunications markets and implementing such criteria in any designation process.

Article 42 of the Telecommunications Law provides a legislative framework for the MDDD process, stating what any Notice and Orders in this regard must specify, including the relevant products and services markets, the standards, methodology and circumstances relied upon, and the methodology operations for market power designation.
Article 42 of the Telecommunications Law also states that Authority may consult with service providers or customers or any other interested parties in the course of undertaking the determination of any market, analysis or market power designation in accordance with the provisions of this article.

The Executive By-Law 1 of 2009 (**Executive By-Law**) provides for a Notice to be issued which establishes the standards and methodology that it will apply in determining whether SMP exists in a particular relevant market (Article 72). Article 72 of the Executive By-Law lists the following elements, factors and criteria that may be included in the methodology to be applied:

- definition of the relevant telecommunications market or markets in terms of products and geographic scope.
- assessment of market power based on a review of the economic and behavioural characteristics of the Relevant Market and an examination of the extent to which a Service Provider, acting alone or jointly with others, is in a position to behave independently of customers or competitors.
- assessment of market share, size of the firm, degree of control of facilities and infrastructure, economies of scope and scale, absence of countervailing buyer power, barriers to entry and expansion, and any other factors present in a Relevant Market.

According to Article 74 of the Executive By-Law, the Authority:

> *"shall, from time to time, review its designation of service providers as dominant in the relevant markets and the specific requirements imposed upon those service providers as a result of that designation."*

This article places an obligation on the Authority to review its dominance designation from time to time. However, neither does this article prescribe a time frame for the Authority to do so, nor is there an automatism in doing so. It is in the sole discretion of the Authority to decide whether there is enough evidence to reassess dominance designations. The Authority can do so either based on its own evidence or by request of a service provider. Here the Authority's discretion is not limited.

Overview of MDDD processes to date

The Authority has conducted two MDDD processes to date.

In a **first MDDD process**, on 24 June 2008, following public consultation, the Authority issued a Notice and Orders setting forth the standards, methodology and analysis for defining Relevant Markets and methodology and standards for determining market power.[85] The Notice and Orders also designated Ooredoo (formerly Qatar Telecom (Qtel) Q.S.C.) as a DSP in several wholesale and retail markets in the telecommunications sector in Qatar.

As a result of the **second MDDD process**[86], on 31 October 2011, the Authority defined the Relevant Markets for retail and wholesale voice, data and connectivity services from a fixed location and/or a mobile device and designated Ooredoo and Vodafone as DSP in one or more of these Relevant Markets. These are set out in Table 1 below and remain in place to date.

As part of this process, the Authority further identified three Relevant Markets which, at the time, were considered to be 'dynamic' and thus susceptible to the Shortcut Process under the next MDDD update. This is also summarised in the table below.

Table 8. Results of the 2010 MDDD

Relevant Markets		Dynamic	DSP	
			Ooredoo	Vodafone
Retail Markets - Fixed voice, fixed broadband/connectivity and international call services from a fixed location or mobile device				
M1	Access to public telecommunications networks at a fixed location	No	Yes	No
M2	Public national telecommunications services at a fixed location	No	Yes	No
M3	Public international telecommunications services at a fixed location and via a mobile device[87]	Yes	Yes	No
M4	Broadband services at a fixed location	No	Yes	No
M5	Retail leased lines[88]	No	Yes	No
Retail Markets – Mobile voice and broadband services				
M6	Public national telecommunications services via a mobile device[89]	Yes	Yes	No
M7	Broadband services via a mobile device[90]	Yes	Yes	No
Wholesale Markets[91] - Fixed				
M8	Origination on public telecommunications networks at a	No	Yes	No

85 ICTRA 02/08 and ICTRA 02/08A

86 For a detailed overview on the MDDD 2010 process, see Response Document ICTRA 2011/10/31a, 31 October 2011, p. 6-8

87 This is irrespective of the terminating network abroad, i.e. fixed or mobile

88 Leased lines represent dedicated connections and bandwidth

89 This includes but is not limited to voice, SMS, MMS, and video calling services. This market covers both access and usage

90 This includes broadband services which are not included in retail market no. 6 such as, but not limited to, broadband Internet services

91 The definition of wholesale markets includes all ancillary services that are provided as an adjunct to or in support of these services, but is not limited to access to mediation hooks, access to OSS/BSS, databases, relevant network information, collocation space, access to facilities, etc.

	fixed location[92]			
M9	Termination on public telecommunications networks at a fixed location[93]	No	Yes	Yes[94]
M10	Wholesale physical network infrastructure access[95]	No	Yes	No
M11	Wholesale access to broadband services at fixed locations[96]	No	Yes	No
M12	Wholesale leased lines[97]	No	Yes	No
Wholesale Markets – Mobile				
M13	Access and origination on public mobile networks	No	Yes	No
M14	Termination on public mobile networks[98]	No	Yes	Yes

Source: 2010 MDDD

Request for MDDD update

In December 2013, Ooredoo requested that the Authority initiates a review of its position as a DSP on three Relevant Markets:

- M3 Public international telecommunications services at a fixed location and via a mobile device
- M6 Public national telecommunications services via a mobile device
- M7 Broadband services via a mobile device

The basis for this request is the Shortcut Process as defined in October 2011. .[99] Ooredoo brought forward this request because it believed that the data provided to the Authority by Ooredoo and Vodafone over the last two years reveals that the dynamics on these markets provide evidence of an "effectively working competitive process" and therefore would support the revision of the current dominance designation in these three markets.

In June 2014, the Authority issued a Policy Statement setting out its overall approach to regulation of the sector going forward.[100] This, amongst others, made reference to the following key policy principles:

- A general focus of regulation on wholesale markets whilst decrease retail regulation where possible
- Limit the regulation on dominant service providers ("asymmetrical regulation") to addressing identified bottlenecks at the wholesale level
- The aim to develop, where necessary, a set of minimum terms and conditions on all networks and service providers ("symmetrical Regulation")
- To develop a comprehensive competition policy

[92] This includes e.g. local call conveyance, dial-up services, carrier selection, and carrier pre-selection
[93] This includes e.g. local call conveyance
[94] Whilst Vodafone was not active in this market at the time, the designation and associated remedies were imposed once would commence offering fixed voice services.
[95] This includes access to passive infrastructure in a technologically neutral manner for the supply of domestic and international telecommunications services, i.e. but not limited to: access to and use of network and facilities, such as ducts, dark fibre, copper, sites, towers, international gateway facilities and other facilities
[96] This includes i.e. but not limited to bitstream access
[97] This includes associated services irrespective of the technology used to provide leased or dedicated capacity
[98] This includes i.e. but not limited to voice, SMS, MMS, video calls
[99] Notice and Order, CRA 2011/10/31 of 31 October 2011
[100] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

Following the Policy Statement , the Authority published a consultation[101] where it explained its proposed amendments to the MDDD process. It proposed amongst others, to adopt the Three Criteria Test (TCT) to identify those markets which are susceptible to ex-ante regulation.

It further stated the policy objective too reduce the number of the retail markets subject to ex-ante regulation, relying on the wholesale market regulation to facilitate competition the downstream markets.

Following a request by Ooredoo in late 2014, the Authority invited stakeholders to submit their views on the competitive situation on three Dynamic Markets (M3, M6, and M7). The Authority also requested the views of stakeholders on the MDDD process and, in particular, about introducing the TCT to identifying the Relevant Markets sceptical to ex-ante regulation.[102]

In line with its June 2014 Policy Statement, the Authority's approach to defining Relevant Markets for the purposes of ex-ante regulation will focus on shaping a regulatory environment that emphasises wholesale rather than retail regulation. An increased focus on wholesale markets and the imposition of wholesale access obligations if an SP is found to hold a dominant position is expected to benefit the development of effective competition in the fixed sector in particular and so enable it to reproduce some of the steady growth observed in the mobile sector. The intention is to promote fair access to networks, while removing gradually, wherever possible, intrusive regulation at the retail level. This evolution will encourage the development by the SPs of better services and innovative products to the benefit of the end - users. The rollback of retail regulation will be phased and be linked to the successful implementation of the wholesale regulatory framework as well as the development of effective regulatory tools for monitoring the market.

*** End of document ***

[101] CRA (2014) Market Definition Review of the list of the Relevant Markets Communications Regulatory Authority "CRA" Draft for Consultation http://www.ictqatar.qa/en/documents/document/review-list-relevant-markets-public-consultation-document

[102] CRA 2014/06/25 of 25 June 2014 and CRA-RAC-14-153 of 30 November 2014

[NON-CONFIDENTIAL]

OOREDOO RESPONSE TO MARKET DEFINITION AND DOMINANCE DESIGNATION – MARKET DEFINITION AND REVIEW OF CANDIDATE MARKETS

CONSULTATION ISSUED 12 MAY 2015

Ooredoo Reference: [QO/Reg-4140/2015-06]

[09 June 2015]

Non-Confidential

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1. Introduction and executive summary

Introduction

1.1 Ooredoo thanks the Communications Regulatory Authority (CRA) for the opportunity to provide feedback to the consultation on Market Definition and Review of Candidate Markets ("the Market Definition consultation") published by the CRA on 12 May 2015.

1.2 Ooredoo agrees with the CRA on the importance of this process to ensure a regulatory environment in Qatar that provides the required level of customer protection, whilst at the same time ensuring that the correct investment incentives are preserved.

1.3 Before responding to the specific questions outlined by the CRA in the consultation document, Ooredoo has set out here a number of general comments, which it believes require further discussion with the CRA and generally the industry.

Background to the MDDD process to date

1.4 On 31 December 2013, Ooredoo filed with the CRA a request for re-assessment of relevant mobile markets in the light of changes to market conditions that has taken place since the last MDDD process, which was run by the CRA during the 2010-2011 time period. In the addition, on 16 March 2014, as per MDDD short-cut process requirement, Ooredoo submitted to the CRA, a submission that included comprehensive evidence that substantiated the need for the formal revision of the dominance designation for the three mobile relevant markets, and requested the CRA to initiate a formal review of the MDDD process in this respect.

1.5 On 25 June 2014, the CRA published a consultation on market definition and review of the list of Relevant markets. The aim of the Authority was to initiate the process for the revision of the market definition and dominance designation ('MDDD'), which was previously completed in 2011, as well as instigating reforms to the overall approach to MDDD.

1.6 The consultation document issued in June 2014 by the CRA, revisited the framework for defining regulation in the telecommunications sector. Specifically, the CRA proposed a gradual shift of the focus from ex-ante regulation at the retail level to regulation of economic bottlenecks at the wholesale markets level, and in particular to the more upstream wholesale services where the real bottlenecks arise. The document also presented the first stage of the analysis, with the CRA identifying a list of proposed Relevant markets.

1.7 On 2 October 2014, Ooredoo responded to this MDDD consultation. Whilst broadly agreeing with the reformulated MDDD methodology that was proposed by the CRA, Ooredoo argued for the removal of a number of markets from the proposed list of Relevant markets, and further sub-markets for some of the Relevant markets listed by the CRA. Furthermore, Ooredoo expressed concern regarding the framework the CRA had adopted for the identification of the markets subject to ex-ante regulation, as well as the lack of adequate consideration given to dynamic nature of telecommunication markets.

1.8 Following that consultation, the CRA conducted several additional discussions and verbal consultations with the industry in relation to the MDDD process.

1.9 As a result of these discussions, the CRA set out a revised process for market definition and dominance assessment. The revised process, for which this consultation forms a sub-set, includes four separate consultation stages:

1.9.1 Market analysis methodology and identification of Candidate Markets;

1.9.2 Competition policy framework;

1.9.3 Identification of Relevant markets and dominance assessment; and

1.9.4 Definition of regulatory remedies.

1.10 On 12 May 2015, the CRA issued the first consultation document under this revised process, the 'Market definition and dominance designation in Qatar – market definition and review of Candidate markets'. In particular, in this document the CRA:

1.10.1 Outlines the approach it intends to adopt in the identification of the Candidate and Relevant markets;

1.10.2 Identifies the Candidate retail markets and their respective upstream wholesale markets; and

1.10.3 Assesses the level of competition in the Candidate retail markets for mobile services and international calls, to determine whether these are Relevant Markets.

Procedural concerns with consultation and proposals from the CRA

Premature conclusion of dominance assessments

1.11 Ooredoo agrees in principle with the CRA on the need for starting the analysis from the definition of Candidate markets. Ooredoo also understands that undertaking a definition of candidate and relevant markets and a dominance assessment, across all markets, in a single consultation would have been an excessively burdensome process. A step-by-step approach that breaks down the various elements of the analysis is preferable and it allows more frequent interactions and discussions between the regulator and the industry.

1.12 However, Ooredoo is concerned that in some places the CRA seems to have already anticipated and concluded on the dominance assessment, before such consultation has even started. This is not appropriate or consistent with the role and duties of a regulatory authority. It is important that the regulatory consultation process is followed according to international best practice standards. This requires the CRA to provide a comprehensive and evidenced justification for its position, in the same way it requires operators to do so, and to carefully consider operators' responses, and the arguments and additional evidence they present. Regulatory best practice also requires the CRA to present, in its final decision, a considered and evidenced response to each of the comments made by operators.

1.13 This issue is of particular concern to Ooredoo in the context of fixed line markets, where the CRA has inappropriately defined various services to belong to the same Candidate markets, whilst recognizing that, from a market analysis point of view, these should be defined separately. The CRA has justified such decision on the basis that the dominance assessment is the same across all services. However, the dominance assessment has not yet been conducted, so the CRA should not be using this as a justification in its definition of Candidate market.

1.14 Such concern has also arisen in communication with the CRA, where the CRA has indicated that it already expects all markets to pass the Three Criteria Test and therefore be defined as Relevant markets, before any such analysis or consultation has taken place.

1.15 Ooredoo believes that it is important that operators can trust the regulator's decision making process and that their views will be listened to during the consultation process and no decision has been already taken a priory. Otherwise, the whole consultation process is futile.

Geographic markets not given sufficient consideration

1.16 In its previous MDDD response in October 2014, Ooredoo already expressed its view on the need for the definition of geographic markets, in light of the existence of parallel networks by Ooredoo and QNBN, with different geographic footprint.

1.17 Ooredoo is disappointed to note that the CRA has not defined any geographic market, but at the same time has not provided any appropriate justification for this. In particular, the CRA does not appear to have sufficiently considered the geographic variation in terms of network roll out and QNBN fibre availability.

1.18 This is discussed later in this document with respect to specific markets.

1.19 The CRA also appears to have failed to consider that Ooredoo and QNBN fibre networks cannot, from a technical point of view, be considered substitutes, as one is based mainly on a single-fibre GPON technology whilst the other is based on a 4-fibre topology. This also results in differences in competitive conditions in different geographic areas, as well as in the type of wholesale services that can be provided.

1.20 Ooredoo invites the CRA to carefully reconsider these issues and provide a fuller explanation for its positions.

Structure of this document

1.21 The remainder of this document is structured as follows:

1.21.1 Section 2 provides responses to the consultation questions on the amendments to the approach to determine Candidate and Relevant Markets;

1.21.2 Section 3 provides responses to the consultation questions on the definition of the retail Candidate Markets;

1.21.3 Section 4 provides responses to the consultation questions on the definition of the wholesale Candidate Markets;

1.21.4 Section 5 provides response to the consultation questions on the Assessment of candidate markets with competing infrastructure; and

1.21.5 Section 6 concludes.

2. Amendments to approach for determining Candidate and Relevant Markets

2.1 This section provides Ooredoo's response to the questions set out in the CRA consultation document with regards to the changes to the proposed approach to determine Candidate and Relevant markets.

2.2 Ooredoo believes that the consultation document is in places unclear and can give rise to some misunderstanding on the process that the CRA is intending to adopt, and what is or will be covered under this and future consultation documents. Therefore, before responding to the consultation questions, Ooredoo has set out its understanding of the process for this market review.

2.3 Phase 1 (covered under this consultation document):

2.3.1 Definition of Candidate Markets.

2.3.2 Application of the Thee Criteria Test (TCT) only to the mobile and international retail markets to determine whether they are Relevant Markets and therefore subject to ex-ante regulation.

2.4 Phase 2 (NOT covered in this consultation document, but will be consulted upon in future consultations during the 2015 Summer/Autumn):

2.4.1 Definition of Relevant Markets subject to ex-ante regulation, by application of the TCT to the list of Candidate Markets defined in this consultation (other than for mobile and international markets, for which the analysis is already covered in this consultation document).

2.4.2 For each Relevant Market, identification of the dominant operator(s).

2.4.3 Identification of appropriate regulatory remedies.

2.5 Ooredoo kindly asks the CRA to confirm that Ooredoo's understanding of the process the CRA is intending to follow is correct.

Question 1

Do you agree with the proposed approach to defining Candidate Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Candidate Markets in Qatar.

2.6 **Ooredoo broadly agrees with the approach set out by the CRA for the definition of Candidate Markets, which appears at a high level to be consistent with the approach used in other jurisdictions.**

2.7 In particular, Ooredoo agrees that the definition of the Candidate markets should take into account the following dimensions:

2.7.1 Product substitutability: the process should start by identifying a narrowly defined service, and the market definition should then be progressively expanded to include all sufficiently close substitutes, by applying the Small but Significant and Non-transitory Increase in Price (SSNIP) test, also known as the Hypothetical Monopolist Test.

2.7.2 Geographic dimension: a relevant geographic market should be defined as including "the area in which the undertakings concerned are involved in the supply and demand of products or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighboring areas because the conditions of competition are appreciably different in those areas"[1].

2.7.3 Customer segment dimension: it is important to consider whether "different customer segments… have sufficient degrees of homogeneity to be included in the same economic market".

2.8 **Whilst the approach set out by the CRA broadly conforms to these principles, there are specific aspects that are of concern to Ooredoo.**

2.9 The CRA is not considering that "homogeneous market conditions" need to be considered in the context of substitutability between services and is a condition that, as set out above, is mostly relevant for the purposes of defining geographic markets. In other words, whilst it is necessary for competitive conditions to be homogeneous in order to define a single market, this is not a sufficient condition. Product substitutability and other factors need also to be considered. Therefore, two services or customer segments cannot be considered as part of the same market simply on the basis that the competition conditions are expected to be

[1] Commission Notice on the definition of relevant market for the purposes of Community competition law, OJ C 372, 9.12.1997, Para 8

similar for both services/customer segments. Appropriate consideration of demand-side substitutability is fundamental for the correct application of the market definition process. The European Commission Notice on the definition of relevant markets[2] states that a relevant product market should comprise *"all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use".* Ooredoo considers that the CRA should be adhering strictly to this principle in its definition of Candidate markets.

2.10 **The CRA does not appear to have conducted a proper assessment of whether geographic markets are appropriate or necessary.** As recognized by the European Commission (EC) in the 2014 Recommendation[3], the identification of the sub-national geographic areas where conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighboring areas should be central in the analysis of the candidate markets. In particular, the EC underlines that attention should be placed in analyzing whether "the potential SMP operator acts uniformly across its network area or whether if faces appreciably different conditions of competition"[4].

2.11 **The CRA seems to be considering it sufficient for products to be sold together in bundles to be considered as part of the same Candidate market. This is inconsistent with international precedent and competition economic theory.** The fact that two or more products are sold in a bundle does not necessarily imply that these can be defined to belong to the same market. This position is shared by the European Commission, and expressed in the Explanatory note accompanying the 2014 Recommendation[5]. As noted by the EC, the existence of bundles in the retail market does not impact the wholesale inputs, which remain separate and non-substitutable. Instead, the regulatory focus should be in ensuring that the elements of the bundle can be effectively replicated both technically and economically. Hence, the EC "does not propose to define a separate retail market

[2] Commission Notice on the definition of relevant market for the purposes of Community competition law, OJ C 372, 9.12.1997, para 7

[3] 2014 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L295/79

[4] Ibid.

[5] 2014 Explanatory note accompanying the document Commission Recommendation on relevant product and service markets susceptible to ex ante regulation, SWD(2014) 298

for bundles because evidence to date has not indicated that there is a need for ex ante regulation of bundles”[6].

2.12 **The approaches to the definition of Candidate Markets and that for the definition of Relevant Markets are in places blurred and that might cause confusion**, especially given the staggered process followed by the CRA across two separate consultation phases. For example, the CRA is determining that some services can be defined as belonging to the same market on the basis that the competitive conditions are similar. However, such considerations should also be discussed, more fully, in the next consultation, in the definition of Relevant markets and dominance assessment. Ooredoo does not believe that the link between the approach to defining Candidate markets and Relevant markets has been sufficiently explained or considered by the CRA.

2.13 In conclusion, Ooredoo believes that the CRA has identified correctly some of the key principles that need to be considered in the definition of Candidate Markets, but in places it does not appear to have followed the approach correctly, and is conflating different conceptual issues.

2.14 In the responses to the consultation questions on the individual markets, Ooredoo has identified where it believes that the CRA has not applied the correct approach and has provided evidence and justification for this.

Question 2

Do you agree with the proposed approach to identifying Relevant Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Relevant Markets in Qatar.

2.15 The approach set out by the CRA for the definition of Relevant markets involves the application of the TCT to each of the Candidate Markets.

2.16 **Ooredoo agrees with the TCT as the appropriate test to be applied for the definition of Relevant markets**. The TCT is a well-established approach used in other jurisdictions and which has been widely discussed in the context of telecommunications regulation in Europe and elsewhere.

[6] Ibid.

2.17 Some specific comments on the application of the TCT are provided below. However, before discussing these, Ooredoo has some serious concerns with the process outlined by the CRA.

2.18 In particular, Ooredoo is concerned that the CRA has still not correctly set out the sequence of analysis required in order to assess the need for ex-ante regulation in a market. In its October 2014 response to the initial MDDD consultation, Ooredoo already set out this process and this is repeated again in more detail below.

The process for the definition of Relevant markets susceptible to ex-ante regulation should be based on the following four logical steps[7]:

2.18.1 **Step 1: Define the markets at the retail level**. This market definition exercise should be based on considerations of substitutability across services and direct and indirect competitive constraints. The definition of retail markets should consider an appropriate time horizon, especially in sectors like telecommunications, where technological change can rapidly alter the boundaries of markets. In the specific case of Qatar, Ooredoo believes that the appropriate starting point for this analysis should be the list of Candidate markets identified in this consultation process, subject to the comments on the individual markets provided by Ooredoo in the following sections of this document.

2.18.2 **Step 2: For each retail market, identify whether the market is competitive in the absence of wholesale regulation.** Once the retail markets are identified, the question should be asked whether the markets are prospectively competitive, *irrespective of any wholesale regulation currently imposed*. If the answer is yes, then no further action is needed and the market can be considered to be fully competitive (and therefore not included in the list of Relevant Markets). If the answer is no, then the analysis should proceed to step 3. The analysis should take into account any expected market developments to assess if any lack of competition in the market is durable and if the market is prospectively competitive.

2.18.3 **Step 3: If retail market is not competitive, identity wholesale inputs and define wholesale remedies**. The wholesale inputs relevant for the provision of the retail services for which there is a competitive concern should be identified and any genuine bottleneck constraint addressed through ex-ante regulation at the wholesale level. In identifying the wholesale markets corresponding to each of the retail markets defined, demand-side and supply-side substitutability of products should be considered. The analysis should be carried out from the perspective of an operator that wishes to compete in supplying end-users in the retail markets.

[7] Consistent with the European framework.

2.18.4 **Step 4: Reassess retail markets in light of wholesale remedies.** Once ex-ante regulation at the wholesale level is defined, the retail markets should be reassessed, this time in light of the wholesale regulation. The question should then be asked whether the wholesale regulation considered would address the competitive concern at the retail level. If the answer is yes, then the process stops and only the identified wholesale markets should be included within the list of Relevant Markets (but the retail market should not). If the answer is no, then steps 2, 3 and 4 are repeated until a wholesale solution to the retail competitive problem is found. In some cases, a wholesale solution to a competitive problem at the retail level is not feasible or possible within a short to medium term. Only in those cases should the retail market be included within the list of Relevant Markets and regulated on an ex-ante basis.

2.19 Crucially, the last step appears to be missing in the process set out by the CRA. Ooredoo is disappointed to note that the CRA appears to have ignored the comments made by Ooredoo in this respect in the previous consultation. Ooredoo reiterates that following this process is fundamental to ensure that ex-ante regulation is only imposed on those markets that genuinely require it. Ooredoo is concerned that, as appears to be set out at the moment by the CRA, the process will result in an excessive number of retail markets being defined as Relevant Markets and subject to ex ante regulation. This would not be consistent with international trends and the CRA's own view that retail regulation should be kept to a minimum.

2.20 Ooredoo therefore requests that the process is revisited by the CRA, to explicitly include the reassessment of retail markets in light of wholesale regulation, before imposing any regulation at the retail level.

In relation to the application of the TCT, Ooredoo has the following concerns:

2.21 Whilst recognizing in section 2 that a number of factors need to be taken into account in the application of each of the stages of the TCT, in practice, in its assessment of the mobile and international markets, the CRA appears to have placed excessive reliance on market shares, rather than considering other criteria, such as pricing behaviors and trends, barriers of expansion and control of infrastructure not easily duplicated. This has led the CRA to reach an inappropriate conclusion in relation to these markets, as set out in section 5 of this document. It is important that the CRA applies in practice the approach that it has set out.

2.22 The CRA does not appear to mention the consideration of indirect constraints. However, these will be very important in the case of Qatar, where parallel networks exist which, even if not directly in competition in the same geographic areas, function as indirect constraints to each other. Indirect constraints can arise at the upstream or retail level, resulting in a more elastic demand in the retail market. This will be particularly the case going forward, following the potential award of a retail license to QNBN. Indirect constraints can take the form of imperfect substitutes to the wholesale or retail products. An imperfect constraint at the wholesale level may impact market power in the retail market by increasing competition in the upstream markets, while the existence of an imperfect substitute to the retail product can change consumers' response to changes in the product or its price, ultimately reducing market power in the retail market. According to the 2014 EC Recommendation, when analyzing the boundaries and market power within a wholesale market, both direct and indirect competition should be considered. The EC explicitly mentions OTTs as a form of indirect competition, as "although today may not be considered as direct substitutes to services provided by electronic communication service providers, technological developments are likely to result in their continuous expansion in the coming years"[8].

2.23 Implied in the EC recommendation is the necessity for the regulator to demonstrate whether the TCT is satisfied or not. For example, in the case of newly emerging markets, the EC states that these markets should be exempted from ex ante regulation on the basis that not enough information is available on them. Further, in the 2014 recommendation, the EC claims that it is necessary to establish "substitutability of a product [...] from both demand – and supply-side perspective before it can be concluded that it is not part of an already existing market"[9].

2.24 Furthermore, whilst Ooredoo welcomes the use of the TCT as recommended by the EC, Ooredoo would like to make a number of statements regarding their application:

Applying the first criterion of the TCT

2.25 Barriers to entry can be structural, legal or regulatory. Structural barriers exist when the state of technology and the nature of the network may prevent

[8] 2014 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L295/79

[9] Ibid.

prospective operators to enter the market or existing operators to expand. Legal or regulatory barriers can arise from legislative or administrative measures, as well as any other government-led measure that may impact directly the market (e.g. fiscal measures).

2.26 The assessment of barriers of entry should consider the likelihood that such barriers may be overcome in an acceptable time frame. This is due to the dynamic nature and functionality of telecommunication markets. This relates to the concept of non- transitory barriers to entry, established in the 2007 EC Recommendation[10] and which has already been raised by Ooredoo in its first submission to the CRA.

2.27 Further, barriers of entry should be considered in the context of the level of innovation in the market. In innovation-driven markets characterized by ongoing technological progress, barriers to entry may be less permanent, as "dynamic or longer-term competition can take place among firms that are not necessarily competitors in an existing 'static' market"[11].

2.28 The minimum efficient scale of operations and the proportions of costs that can be considered sunk should be considered when assessing the presence of barriers of entry in a market.

Applying the second criterion of the TCT

2.29 Examining the tendency of the market towards effective competition requires an analysis of the market dynamics and the state of competition beyond the barriers to entry. Indeed, a market with high barriers to entry may very well tend towards effective competition.

2.30 Technological developments and convergence of markets and/or products should be taken into consideration when assessing whether a market tends towards effective competition. Undertakings that may operate using different technologies and/or infrastructure, but which produce substitute products can alter competition in the market, affect price, quality and consumer behavior. This is the case for example with OTT players, which supply services that are becoming closer substitutes to traditional telecommunication services.

[10] 2007 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L 344/65.
[11] Ibid.

2.31 In markets where the pace of change and the dynamic nature of the market are significant, attention must be placed on the appropriate timeframe for the analysis.

2.32 The presence of barriers to expansion should be considered, together with the likely development of these barriers over the period of analysis.

2.33 A tendency towards competition does not require the market under analysis to be effectively competitive within the period of review. The test that would need to be conducted is a realistic assessment of whether competition is likely to emerge in the period under consideration.

Applying the third criterion of the TCT

2.34 Competition law should be considered as a complementary lever to ex ante regulation. Hence, the third criterion calls for an assessment of whether competition law could be sufficient to overcome any market failures identified in a specific market, in the absence of ex ante regulation.

2.35 In other words, the test should consider whether ex-post competition policy measures would have sufficient deterrence effects to disincentivise operators from engaging in anti-competitive practices and ensure the harm to customers is eliminated, or substantially reduced.

3. Retail Candidate Markets

3.1 This section provides Ooredoo's response to the specific questions set out in the CRA consultation document with regards to the changes to the Retail Candidate Markets.

Question 3

Do you agree with the proposed Candidate Markets for retail national fixed voice and broadband services as set out in Section 3.1.1 and Section 3.1.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.2 Ooredoo does not agree with the definition of this Candidate Market.

3.3 In particular, Ooredoo believes that it is not appropriate to define an access product to be in the same market as voice and broadband services. The statement "national fixed voice services generally include access" is simply incorrect.

3.4 There is limited precedent to support the conclusion that access, voice and broadband services are in the same market. As these services are complements, and not substitutes for each other, they should not be considered as part of the same market.

Inclusion of voice and access services in the same market is incorrect

3.5 Ooredoo understands that the existence of an access deficit in Qatar needs to be addressed and resolved by the CRA. The inclusion of free local calls as part of the line rental is also a factor that needs to be taken into account.

3.6 However, Ooredoo does not believe that defining voice and access services to be in the same market is an appropriate solution to these issues from a competition analysis perspective.

3.7 In particular, Ooredoo believes that the CRA should adopt a forward looking view with respect to these services and recognize that competitive conditions in the access and voice markets can evolve very differently over time. In particular, whilst the fixed line access market is likely to remain a bottleneck for the next few years, potentially even in the presence of some of the wholesale remedies which might be introduced, the provision of voice services over the access line is likely to become competitive or prospectively competitive over the next few years.

3.8 For these reasons, **Ooredoo does not believe that the access and voice services should be defined to be in the same market.**

Inclusion of broadband services in the same market as voice and access services is incorrect and out of line with international practice

3.9 Ooredoo strongly disagrees with the CRA conclusion that broadband services should be included in the same market as voice and access services. Ooredoo notes that there is very limited precedent for such conclusion.

3.10 For example, in the study preceding the 2007 EC Recommendation on Relevant Markets, the EC considered whether broadband should be included in the same market as the voice and access services and concluded that it should not. This assessment was based on the consideration that, whilst broadband connections could also be used to deliver narrowband services, consumers would not generally upgrade to broadband for the purpose of accessing voice services[12]. Consumers switch from narrowband to broadband connections primarily to get higher-speed internet services, relatively independently of the price differential between the two products. A price increase for broadband services is unlikely to have a significant impact on customers' decisions in relation to either fixed line subscription or voice usage.

3.11 In the Explanatory note accompanying the 2014 EC Recommendation on Relevant markets, the EC considers the bundling of fixed voice services and broadband access as "a phenomenon of continued provision of a declining fixed voice service alongside broadband access and/or IPTV, rather than an economically significant offer that alters the competitive dynamics over a longer period"[13], and as such the EC concludes that these services should not be included in the same retail market.

3.12 As already explained in section 2 of this document, whether some products are sold in bundles is irrelevant for the purposes of market definition. Triple- and quad-play packages have been sold in most jurisdictions for a number of years, but this has not led regulatory authorities to merge the markets for the purposes of regulation. As long as it is possible for customers to purchase services separately, the existence of bundles should not be included as a relevant factor in the definition of markets. In fact, the very fact that products are sold in bundles is an indication of the complementarity of these services, not their substitutability. The CRA does not appear to have conducted a clear analysis on this point. For example the CRA states that "there is an increasing trend to bundled product offerings within fixed voice and between fixed voice, broadband and TV services. This will make substitutability of individual services within these multi-product bundles more difficult…". Had the CRA considered this statement carefully, it should be clear that there cannot be any substitutability between, say, a TV service and a voice service. The CRA should also have considered that, whilst consumers might have a preference for purchasing services in bundles, there are no barriers to purchasing services separately, from different suppliers. For these reasons,

[12] 2007 Explanatory note accompanying the document Commission Recommendation on relevant product and service markets susceptible to ex ante regulation, SEC(2007) 1483/2

[13] 2014 Explanatory note accompanying the document Commission Recommendation on relevant product and service markets susceptible to ex ante regulation, SWD(2014) 298

Ooredoo asks the CRA to consider more thoroughly the issue of bundles and recognize their irrelevance for the definition of Candidate markets.

3.13 Finally, Ooredoo disagrees with the CRA conclusion that the competitive conditions in the access, voice and broadband markets are sufficiently similar to allow these services to be included in the same market. Ooredoo disagrees on the basis of a number of considerations:

3.13.1 The CRA does not appear to have conducted a thorough assessment of the competitive conditions in these markets. No evidence or analysis is presented in the consultation document to support the CRA conclusion.

3.13.2 In any case, by stating that "the competitive dynamics for these services are sufficiently similar in Qatar to reach the same conclusions on the market analysis *and dominance designation* for both services" the CRA is pre-emptying the conclusions of the next stage of the MDDD consultation process, which will focus on Relevant markets and dominance designation. This is inappropriate and makes the entire consultation process devoid of meaning or purpose. Ooredoo urges the CRA to withdraw such conclusions immediately and to reserve any conclusion on dominance designation until the end of the relevant consultation.

3.13.3 Notwithstanding the comments above, Ooredoo notes that whether the conclusions on dominance are the same or not, this is not relevant or sufficient to conclude that the services should be included in the same market.

3.14 In conclusion, **Ooredoo believes that the broadband market should be defined as a separate market from the voice and access markets and the CRA should not be anticipating conclusions that should not be reached until the end of the dominance assessment consultation.**

Within the fixed market, residential and business customer segments should be separate

3.15 Ooredoo disagrees with the CRA conclusion that business and residential customer segments should be included in the same market.

3.16 The CRA is itself recognizing the fundamentally different demand characteristics of business and residential segments (for example, different sensitivities to prices, quality of service, security, etc.) and concludes that "these two customer segments to be sufficiently different to, in principle, justify separate product markets". Notwithstanding this, the CRA then concludes that the market segments can be defined to be in the same Candidate market simply because of homogeneous competitive conditions. As already discussed above in relation to the broadband market, Ooredoo disagrees with the CRA conclusion on the basis that:

3.16.1 Given the significant differences in demand conditions, the segments should not be considered to be in the same market. This is due to the significant differences in the type of services provided to the two segments. For example, the quality of service, in particular in relation to repair times, resilience, service level guarantee etc., provided to business customers tends to be significantly higher than for residential customers. The differential prices charged for a residential and a business line reflect the different characteristic of the service provided. Ooredoo also points out that whilst the CRA focuses on differences in the prices between residential and business services, in particular for broadband, differences of quality of services are very important to consider too. A business customer will not be considering only prices when deciding whether to switch service provider.

3.16.2 Ooredoo does not believe that competitive conditions between the two customer segments are homogeneous. In fact, Ooredoo does not understand why considerations of the same factors have led the CRA to conclude that business and residential customers are in separate markets for the mobile sector, but not for the fixed sector. In fact, as discussed in more detail later in this document, differences in demand characteristics between the business and residential segments are more relevant and pronounced for fixed line services than mobile services.

3.16.3 Within the fixed telephony business segment, there are a range of Value Added Services (VAS) that are provided on top of the fixed line which are not provided to residential users, which enable the aggregate Average Revenue Per User (ARPU) per business line to be significantly higher than for residential users. Ooredoo believes that the higher margins imply that the potential for competition is significantly higher in the fixed telephony business segment compared to the residential segment.

3.16.4 Fixed access is sold at a loss to residential customers, while it is sold with positive margins to business customers. This indicates that competition is likely to evolve in the business sector rather than in the residential one.

3.16.5 Furthermore, Fixed Number Portability (FNP) is to be introduced within the market within the timeframe of this review, which will enable Vodafone Qatar and other entrants to offer fixed telephony services, removing any barrier to customer switching. Whilst FNP will be available for both business and residential customers, it is evident that the non-monetary savings associated with FNP are far larger for businesses.

3.16.6 The CRA should not have anticipated conclusions on the dominance assessment for this market, which are in any case irrelevant for the purpose of market definition. Whether the same operator is dominant in two markets cannot be taken as a justification for merging the two markets.

3.17 For all these reasons, **Ooredoo believes that separate markets should be defined for business and residential customer segments.**

Inclusion of VoIP services in the same market as fixed voice services is justified

3.18 Ooredoo disagrees with the CRA that VoIP services should not be included in the definition of the Candidate market.

3.19 There is precedence from many other jurisdictions that suggests that VoIP should be included in the same market definition as fixed voice services. For example, the OECD argues that VoIP can effectively constrain the behavior of market players and can thus affect market decisions[14]. In France, the Competition Authority overruled a decision by the regulator ARCEP and argued that Voice over Broadband ("VoB") should be included in the same market as PSTN voice services as the two services have the same function and can be used interchangeably[15].

3.20 In the explanatory note accompanying the 2007 EC Recommendation[16], the EC concluded that in countries where broadband penetration is high, VoB services may exercise a competitive constraint to traditional voice services, provided it is not possible to price discriminate between consumers that have a narrowband connection and those that also have a broadband connection. In this case, managed VoB services should be included in the market definition.

3.21 Further, in the 2014 EC Recommendation[17], managed VoIP services are included in the definition of the relevant retail market on the basis that they already exercise

[14] OECD Competition Committee (2014), Defining the Relevant Market in Telecommunications: Review of Selected OECD Countries and Colombia", page 28. Available at http://www.oecd.org/daf/competition/Defining_Relevant_Market_in_Telecommunications_web.pdf

[15] OECD Competition Committee (2014), *Defining the Relevant Market in Telecommunications: Review of Selected OECD Countries and Colombia",* page 28. Available at http://www.oecd.org/daf/competition/Defining_Relevant_Market_in_Telecommunications_web.pdf

[16] 2007 Explanatory note accompanying the document Commission Recommendation on relevant product and service markets susceptible to ex ante regulation, SEC(2007) 1483/2

[17] 2014 Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation L295/79

competitive constraints, and will do so increasingly in the future. For residential customers switching costs (from traditional voice to OTT based VoIP service) are low, and for many business customers VoIP services are already the default option.

3.22 Ooredoo believes that the same trends can be observed in Qatar.

3.22.1 National call minutes show a big drop, with fixed off-net minutes per Ooredoo's subscribers decreasing by [redacted] between 2011 and 2014 (despite rapid growth of the mobile subscriber base over same time period) and total volume of the fixed to fixed Ooredoo on-net calling decreased by [redacted] between 2009 and 2013[18]. On the other hand, VoIP traffic per mobile subscriber carried over fixed network increased by approximately [redacted] between the first quarter of 2012 and the second quarter of 2014. See tables 1, 2 and 3 in the Annex 1.

3.22.2 VoIP call minutes on smartphones have overtaken regular call minutes.

3.22.3 Ooredoo estimates that more than 50% of mobile device traffic in Qatar is VoIP with majority of this traffic being carried over fixed network infrastructure.

3.23 Moreover, Ooredoo believes that some of the arguments used by the CRA to justify its decision that OTT-based VoIP should not be part of the same market as fixed voice services are spurious. In particular:

3.23.1 OTTs need a PC or smartphone: this is no different from a fixed line call requiring a fixed phone. Moreover, there are more smartphones in Qatar than there are fixed line phones. As of May 2015, Ooredoo registered in its network more than [redacted] smartphones compared to less than [redacted] fixed lines.

3.23.2 OTTs do not provide a personal geographic number: whilst this might limit the extent to which a customer can be reached, the CRA has not considered that there are other features of OTTs, for example the fact that they can be accessed from a laptop or mobile device, that increase, rather than decrease, the extent to which a customer can be reached. So they overcome the limitation of a fixed line that the customer has to be physically located at home or in the office in order to be reached. Also, services like Skype offer number based calling services that terminate calls on the app that are originated from a mobile or fixed network.

3.23.3 The need for a broadband connection: it is not possible for the CRA to argue on the one hand that broadband is in the same market as access and voice because the services are mostly sold in bundles, but then use the price of broadband as a possible

[18] Source: Ooredoo's MDDD Q1/2015 report and Ooredoo's RAS 2009 and 2013 submissions.

barrier for customers to switch from fixed voice to OTT – only one of these two arguments can be correct.

3.23.4 The number of fixed connections cannot be taken as an indication of whether substitutability with OTT exists or not. A fixed line connection is needed in any case for the provision of broadband, so it is not surprising that the number of connections has not decreased. The CRA should not be drawing any conclusion on OTT substitutability until it has analyzed and compared traffic profiles between OTTs and fixed line voice services. An analysis of Ooredoo's minutes of use per subscriber suggests that VoIP usage per mobile subscriber has doubled between 2011 and 2013, and most of this usage is carried over Ooredoo's fixed network. This suggests that there has been substitution between the two services, as consumers may have increased VoIP usage at the expense of fixed voice services, while keeping the fixed line connection.

3.23.5 Lastly, Ooredoo believes that the estimated price of a minute of Skype to non-Skype call may be overestimated by the CRA. A review of Skype's prices to Qatar[19] suggests that for pay as you go ('PAYG') services, for the most expensive rates provided by Skype, the price per minute is around QR 1.73, with a one-off connection charge of QR 0.32. This would amount to around QR 1.84 per minute for a three minute call. This suggests that Skype's national within-Qatar calls are more similarly priced to traditional national voice services, rather than what the CRA maintains. Further, it is important to note that many Skype users opt for subscription-based services, which are provided at a lower rate than PAYG.

3.24 In conclusion, **Ooredoo believes that OTT should be considered as part of the fixed voice market.**

Separate geographic markets in the fixed market are justified in Qatar

3.25 Ooredoo disagrees with the CRA conclusion that the markets for fixed access, voice and broadband services are national in scope.

3.26 Ooredoo notes that it is not correct to conclude that "in the absence of any such evidence of sub-national differences in product substitutability, the relevant geographic market should be defined as national". Geographic differences in factors such as the number of operators offering competing services and running parallel networks should also be taken into account. For example, the competitive nature in mega-developments is significantly different from that in other areas of

[19] See http://www.skype.com/en/rates/

the country and therefore these areas should be considered as part of separate markets.

3.27 Further, Ooredoo believes that the geographic variation in terms of Ooredoo's network roll out and QNBN fibre availability should be taken into account in the definition of the markets, and that this should be done through the definition of geographic markets. A relevant geographic market refers to an area where the competition conditions are similar and they can be distinguished from other areas of the country.[20] As Ooredoo and QNBN fibre networks cannot, from a technical point of view, be considered substitutes (as one is based on a single-fibre GPON technology whilst the other is based on a 4-fibre topology), and they don't have a similar geographic footprint, differences in competitive conditions arise in different geographic areas.

3.28 Competition in The Pearl Qatar (TPQ) has led to decreases in prices to competitive levels at a national level. Both Ooredoo and Vodafone Qatar (Vodafone) provide fibre services at TPQ, with Vodafone using bitstream access to compete with Ooredoo in this area. This competitive pressure forced Ooredoo to decrease effective prices (i.e. Ooredoo increased the download speed without increasing the price) in TPQ. Since retail prices are currently required by regulation, to be set uniformly across whole state territory, the competition at TPQ effectively led to a drop in Retail prices to competitive level for all of Ooredoo's customers across Qatar. Further price drops have been effectively prevented by the CRA, in light of the costs estimates of fibre services submitted to the CRA at the time of the Ooredoo fibre tariff approval.

3.29 Lastly, Ooredoo strongly disagrees with Vodafone that defining and managing, from a regulatory perspective, geographic markets would be excessively complicated. There are numerous precedents from other jurisdictions, which show that geographic markets are feasible and indeed necessary when competition at the national level is not even. For example, in the UK, geographic markets for the broadband market have been defined for a number of years, with the definition of the geographic markets being based on the number of operators providing services in the area.

[20] See "Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications network and services". Document available at : http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52002XC0711(02)&from=EN

Conclusions

3.30 In conclusion, Ooredoo believes that the CRA should have defined separate markets for the fixed access, voice and broadband services, and separately for business and residential customers. VoIP services should be included in the market for fixed voice services, both for residential and business customers. Finally, Ooredoo believes that competitive conditions are not homogeneous across the national territory. Instead, the CRA should be considering that a different number of operators is competing for customers in different areas, using networks that belong to either Ooredoo or QNBN. Therefore, geographic markets should be considered.

Question 4

Do you agree with the proposed Candidate Markets for retail national mobile voice and broadband services as set out in Section 3.1.3 and Section 3.1.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.31 **Ooredoo agrees with the CRA that all mobile services can be considered as part of the same market**. However, not for the reasons outlined by the CRA – i.e. the fact that the products are sold in a bundle is not relevant. Ooredoo observes that the access network in a mobile context does not constitute a barrier to entry in the same way the access network in a fixed line context does, as the radio access network is more easily replicable. Moreover, in a mobile network, the cost of the radio access network is more directly linked to the amount of traffic carried. Finally, substitutability between voice, SMS and broadband/OTT services appears to be more pronounced in the mobile market than the fixed market. For these reasons, and not because of bundling, it seems appropriate to continue to include all mobile services in a single market.

Prepaid and postpaid segments are in the same market

3.32 **Ooredoo agrees with the CRA that considering prepaid and postpaid customers in the same market** is correct for market definition purposes.

Fixed-mobile substitution should be given consideration

3.33 Ooredoo further notes that fixed-mobile substitution is a growing phenomenon that is occurring not only in Qatar, but also in most jurisdictions internationally. In a number of developed markets, there is an accelerating trend of customers switching away from fixed lines to mobiles, at least for the purpose of voice calls. Whilst this trend is also starting to manifest itself in Qatar, Ooredoo agrees with the CRA that this trend is not at the moment sufficiently strong to justify fixed and mobile services to be considered part of the same market. However, **Ooredoo believes that this should be kept under review by the CRA and the possibility to define joint fixed and mobile markets should be considered in future market reviews.**

Inclusion of VoIP services in the same market as mobile services is justified

3.34 **Ooredoo disagrees with the conclusion reached by the CRA that OTT services should not be included in the same market as mobile services**. In particular, Ooredoo believes that substitutability between mobile services and OTT services is strong and growing. Indeed, evidence suggests that while VoIP usage per mobile subscriber has been increasing at a fast pace in the past years, minutes of use per mobile voice subscriber have been decreased. Further, OTT messages per subscriber are roughly 10 times higher than traditional SMSs.

Separating residential and business segments within the mobile market is unwarranted and unjustified

3.35 **Ooredoo does not believe that the separation of the mobile market between the residential and business segments is necessary**. In fact, Ooredoo observes that the arguments used by the CRA to define separate markets for residential and business segments are much more applicable in the context of fixed services than mobile services:

3.35.1 **Demand:** quality of service is more easily controllable and differentiated in fixed line networks (for example, in relation to contention ratios, speed, repair times, etc.) than in mobile networks.

3.35.2 **OTT services:** Ooredoo notes that the CRA is being inconsistent with regards to its arguments related to OTT. Having just concluded that substitutability with OTT services is not sufficient to justify including them in the same market, substitutability with OTT is then used by the CRA as an argument to separate residential and business segments. Ooredoo believes that the CRA should be consistent in its analysis.

3.35.3 **Service offering:** all the differences between packages, marketing strategies, etc. identified by the CRA are much more pronounced in the context of fixed line services. In fact it is often the case that there is no clear differentiation between business and consumer mobile service offers. SOHO and SME segments can purchase the mobile service as business entity, but do not need to, and many of them are registered with Ooredoo as consumer customers. At the same time, employees of large corporations are targeted with specific offers that bring them additional benefit due to the fact that they are employees of a specific corporation. However, the offer is a consumer type of offer and these customers are registered as consumer, rather than business, customers. As a result it is impossible to draw a clear line between business and consumer mobile segments.

3.36 For these reasons, Ooredoo believes that the CRA is being inconsistent in its arguments in relation to the separation between residential and business segments. **Ooredoo maintains that a separation between segments is only appropriate in the context of fixed line services**, where real differences in the type of services and offerings can be observed. The market reality within Qatar does not support such a separation for mobile markets.

A national geographic market for mobile market is appropriate

3.37 **Ooredoo agrees with the CRA that mobile markets should be defined as being national in scope**.

Fixed-mobile substitution should be given consideration

3.38 In relation to mobile broadband, Ooredoo notes that there is an increasing trend towards fixed-mobile broadband substitution. As mobile broadband speeds increase thanks to the deployment of new technologies such as LTE to reach speeds that are comparable to those available on the fixed network, substitution is emerging.

3.39 Ooredoo believes that fixed-mobile broadband substitution should be investigated in more detail by the CRA and monitored going forward.

3.40 In particular, whilst Ooredoo agrees that, to some extent, mobile broadband is unlikely to reach the quality of service available for the top premium fixed broadband packages, what is relevant in the context of a market analysis is whether a chain of substitution exists – i.e. whether a sufficiently large number of customers would respond to a change in prices, across adjacent packages in terms of speed and quality of services. **Ooredoo believes that such chain of substitution exists and is growing stronger and should be taken into account, at the very least as an indirect constraint, by the CRA.**

Conclusions

3.41 In conclusion, Ooredoo broadly agrees with the conclusions of the CRA in relation to retail mobile markets, with the exception of:

3.41.1 The separation between residential and business segments, which Ooredoo believes is not necessary and is inconsistent with the conclusions by the CRA on the separation between the two customer segments in the fixed market; and

3.41.2 VoIP services, which Ooredoo believes should be included in the market.

Question 5

Do you agree with the proposed Candidate Markets for retail international outgoing call services at a fixed location and via a mobile device services as set out in Section 3.1.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.42 **Ooredoo disagrees with the separation of international call markets into residential and business segments.** In relation to this service, there is no significant difference in the quality of service or service characteristics that would justify this conclusion. The CRA appears to be defining separate markets purely on the basis that this is the conclusion reached for mobile voice and broadband services. Ooredoo does not believe that this is an appropriate analysis and invites the CRA to conduct a more thorough assessment and identify the specific aspects of service provided which would justify such segment separation. Ooredoo does not believe there are any.

3.43 Ooredoo is also disappointed to note that the CRA has decided to ignore its own previous analysis and the data provided by Ooredoo in relation to fixed-mobile substitution in this market, and has instead unjustifiably proposed separate fixed and mobile markets in relation to international voice calls.

3.44 Evidence suggests that VoIP has put increasing pressures on traditional IDD services, both in mobile and fixed markets (see Table 4 in Annex 1):

3.44.1 Between the first quarter of 2011 and the first quarter of 2015, mobile revenues from international calls have decreased by [redacted], despite a [redacted] increase in the subscriber base (using MDDD reports subscriber count methodology).

3.44.2 While between 2012 and 2014 traditional IDD volumes from mobile remained approximately unchanged, VoIP minutes increased by over [redacted].

3.44.3 Ooredoo has lost more than [redacted] of traffic and revenues from international calls at a fixed location between the first quarter of 2011 and the first quarter of 2015. In the same period, Ooredoo has kept the price for fixed IDD calls approximately constant.

3.45 Recent experience with IDD calls to India suggests that decreasing the retail price of IDD calls is ineffective when competing with OTT providers, which offer "on-net" calls for free. In this light, the fact that Ooredoo has kept its price for IDD calls from fixed location unchanged is not sufficient evidence of market power, as Ooredoo has lost significant volume of traffic and associated revenues.

3.46 Overall, **Ooredoo believes that a single market for IDD services, from either fixed or mobile location, should be defined, encompassing both residential and business segments**. This is further discussed in relation to Ooredoo's answers to questions 16 -19 below.

Question 6

Do you agree with the proposed Candidate Markets for retail national and international leased lines services as set out in Section 3.1.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.47 **Ooredoo agrees with the CRA that all speeds should be included in the same leased line market** and that the same conclusion should also be reached for physical and virtual capacity and in general for the technology used to deliver the services.

3.48 **Ooredoo also agrees with the CRA that national and international leased lines should be considered as separate markets. However, Ooredoo notes that the market for international leased lines does not need to be considered further** by the CRA, given the very competitive nature of the market, its international dimension and the presence of wholesale services which enable international competitors to offer the same service.

4. Wholesale Candidate Markets

4.1 This section provides Ooredoo's response to the specific questions set out in the CRA consultation document with regards to the changes to the wholesale Candidate Markets.

Question 7

Do you agree with the proposed Candidate Markets for wholesale call origination on public telecommunications networks at a fixed location as set out in Section 3.2.1? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

4.2 **Ooredoo agrees in principle that a market for wholesale call origination services from a fixed location might need to be defined in the future. However, Ooredoo also notes that there is in practice no demand for such service** and therefore any discussion in relation to this market appears premature and unnecessary.

Question 8

Do you agree with the proposed Candidate Markets for wholesale call termination on individual telecommunications networks at a fixed location as set out in Section 3.2.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

4.3 **Ooredoo agrees with the current definition of the market for wholesale call termination services from a fixed location. However, Ooredoo believes that the CRA should be considering the impact of OTT services.** In particular, Ooredoo believes that the CRA should be considering the impact of competition of the current arrangements by which OTTs are allowed to terminate calls on fixed networks whilst not incurring the termination charge. Ooredoo believes that the CRA should be addressing this issue, to ensure that a level playing field exists between OTTs and fixed voice services.

Question 9

Do you agree with the proposed Candidate Markets for wholesale physical network infrastructure access as set out in Section 3.2.3? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What in your view is the required demarcation point for these wholesale products? Please evidence your response.

4.4 **Ooredoo does not believe that the CRA has sufficiently considered the definition of wholesale services in relation to their relative downstream and upstream position in the value chain, and the retail services which they should be input to**. In particular, whilst recognizing that both active and passive wholesale services can be defined as inputs into the same retail market, the CRA does not appear to have considered the competitive interaction between such services.

4.5 Ooredoo believes that it is important that the CRA considers this issue, as otherwise there is a danger that the CRA might draw the wrong conclusions regarding market definition, dominance and regulatory remedies.

4.6 In particular, Ooredoo notes that the CRA is trying to include services within the wholesale physical network infrastructure access and other wholesale markets which are currently not provided by Ooredoo or not within a regulatory framework. Ooredoo believes that before considering the introduction of such services, it is necessary for the CRA to present a detailed assessment of the interaction between the various wholesale services and any regulatory remedy that might be imposed on them. This is discussed in more detail below.

Sites, masts and towers are important, however these are being addressed sufficiently through commercial incentives and do not warrant regulatory intervention

4.7 Consistent with the previous MDDD response provided in October 2014, Ooredoo agrees with the CRA that site and tower sharing allows mobile operators to reduce the required network investment and focus it more on new technologies and additional capacity, thereby improving the quality of the services provided to customers. For these reasons, Ooredoo agrees that it is important that site and tower sharing continues and expands in the market.

4.8 However, **Ooredoo reiterates that the current arrangements for site and tower sharing should remain in place.** Both Vodafone and Ooredoo have the right incentives to ensure that such arrangements are successful. Ooredoo is not aware of any issue with the current arrangements that would warrant regulatory intervention.

4.9 **Therefore, whilst agreeing with the definition of the service, Ooredoo does not believe that it should be considered in the assessment of Relevant markets.**

Insufficient analysis and consideration given to wholesale fixed access network services

4.10 **Ooredoo disagrees with the CRA conclusion that there is no supply-side substitutability for access to the fixed access network**. In particular, as noted by the CRA, two types of remedies are possible – passive and active. Active remedies are supply side substitutes for parallel network deployment by more than one operator.

4.11 With regards to duct access, **Ooredoo maintains its position that access to duct can be provided by Ooredoo, wherever technically feasible**. However, Ooredoo would also reiterate that any form of duct access regulation should recognize that there are areas where Ooredoo has not deployed its network (e.g. some mega-developments) and that there are areas where the duct is full and therefore cannot be feasibly shared.

4.12 With regards to access to fibre, Ooredoo is disappointed to see that the CRA has decided to ignore the issue of the technical feasibility of this remedy in the context of Ooredoo's network. Ooredoo has already explained that there are fundamental technical differences between a point-to-point (P-P) fibre network and a GPON network, as well as the various forms of GPON networks.

4.13 QNBN has deployed multi-fibre GPON network complemented with P-P network to serve large enterprises, and for this reason is technically able to provide access to its dark fibre.

4.14 Ooredoo, instead, has only deployed a limited amount of P-P fibre, and has instead opted for a single-fibre GPON solution. This is in line with the deployment of fibre by most operators internationally.

4.15 In a single fibre GPON network, it is not possible to provide access to individual strands of dark fibre. The following picture shows a typical single-fibre GPON network deployment.

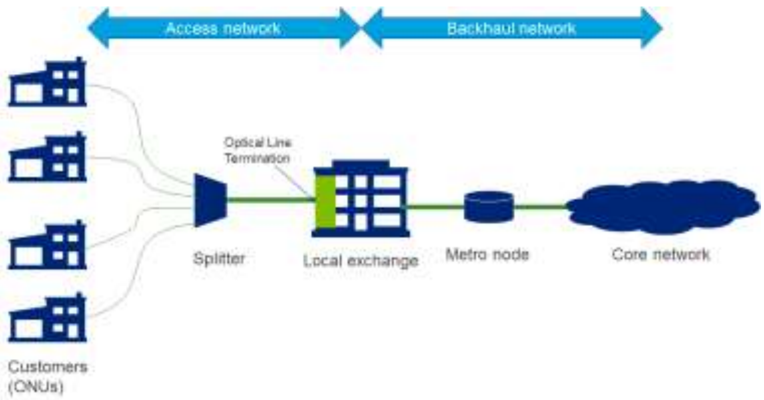


Figure 1: Graphical representation of a typical GPON network deployment

4.16 As can be seen from the figure above, a single-fibre GPON network is a point-to-multipoint network, which uses unpowered optical splitters to enable a single optical fibre to serve a number of customers. This structure implies that it is not possible to provide physical access to a fibre strand all the way to an individual customer. The presence of optical splitters further implies that dark fibre connections to an individual customer cannot be provided.

4.17 This is different in the context of a P-P network. As shown in the following picture, a P-P network by definition allows the unbundling of individual fibre strands to a customer, as no optical splits are used in the network.

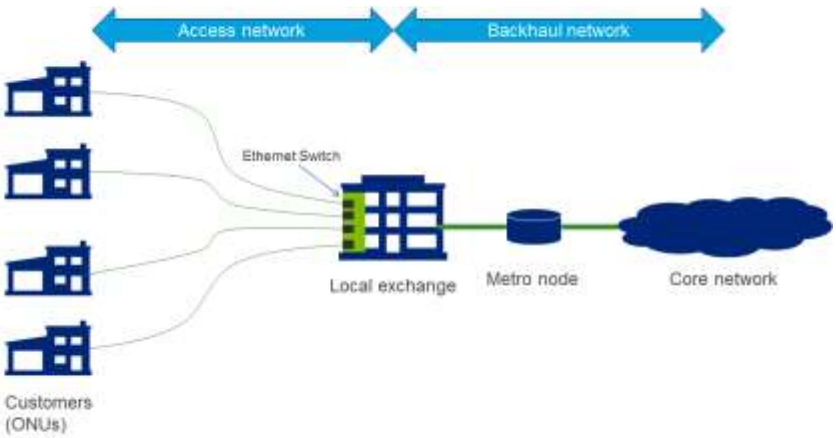


Figure 2: Graphical representation of a typical P-P network deployment

4.18 For this reason, **Ooredoo notes once again that it is not possible to include dark fibre within the scope of the physical network infrastructure access market**, or at least not in relation to Ooredoo's network.

4.19 Ooredoo understands the need to ensure that competition is promoted. However, this can be achieved through access to the ducts (thus stimulating investment in fibre by competitors) or through the provision of fibre through QNBN, whose very mandate is the provision of dark fibre. These remedies would be sufficient to ensure replicability of all Ooredoo's retail offering.

4.20 Ooredoo notes that the focusing on duct access, rather than dark fibre, would be consistent with the experience in various international jurisdictions, particularly in Europe. Duct access has been seen by many European regulators as the wholesale service that would provide the right balance between encouraging infrastructure competition whilst ensuring that incentives to invest for the incumbent operator are maintained. For example, in Portugal, PT is only required to offer access to dark fibre where the duct is full. However, requests for dark fibre access are not common. In France, there is a requirement since 2006 on Orange to allow access to backhaul dark fibre where possible, but this is only provided on commercial terms (i.e. this is not regulated). Moreover, when an alternative operator deploys fibre using the incumbent's duct access service, they are required to provide access to such fibre on a wholesale basis.

4.21 Ooredoo believes that such a compromising solution, which preserves investment incentives whilst allowing some degree of infrastructure competition, should also be considered by the CRA for Qatar.

4.22 Ooredoo further objects to a national definition to these markets. QNBN was established and continue to operate with the precise purpose of providing wholesale fibre services in Qatar and has a license obligation to do so. Whilst QNBN might not have been able to meet its roll out plans, the establishment of QNBN significantly changed Ooredoo's business plans in the past. Having had to adjust plans to reflect the prospective competitive pressure by QNBN, it is now not appropriate for the CRA to shift the focus of regulation back on Ooredoo, simply because of the roll out failures of QNBN. At least in areas where QNBN has deployed its network, Ooredoo should be free from any regulatory obligation. Hence, geographic markets are required in relation to physical infrastructure access.

It is premature to consider regulatory intervention within the International gateways market

4.23 As noted by the CRA, both Ooredoo and Vodafone own and operate their own international gateways and Ooredoo is not aware of any request of access by other operators. Therefore, it appears unnecessary to discuss potential regulation of this service at present. **Ooredoo suggests that any discussion regarding the provision of this service is postponed until a real and concrete demand for it arises**.

Conclusion

4.24 For the reasons outlined above, Ooredoo believes that only duct access should be included as part of the market for wholesale physical network infrastructure access for all operators (or indeed utility companies) which own duct,

4.25 Access to dark fibre is an obligation under the license for QNBN. Therefore, dark fibre should only be considered to the extent that it refers to QNBN.

Question 10

Do you agree with the proposed Candidate Markets for wholesale access to broadband services at fixed locations as set out in Section 3.2.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market *definition for these services. What in your view is the required demarcation point for these wholesale products? Please evidence your response.*

4.26 For the reasons outlined above, **Ooredoo disagrees that the market should be defined at the national level**. QNBN is the designated fibre provider in Qatar, not Ooredoo. Whilst Ooredoo recognizes that the network roll out speed by QNBN has been slower than hoped and expected, it is not appropriate to penalize Ooredoo from a regulatory perspective because of the roll out delays by QNBN. Ooredoo maintains that separate markets should be defined, to distinguish areas where QNBN has or is expected, under current plans, to deploy its network and areas where QNBN has no roll-out plans.

4.27 **Ooredoo however agrees with the CRA on the current demarcation point (i.e. exclusion of backhaul from the service**). This is in line with the need to stimulate network investment in parts of the network that are easily replicable and the need to focus regulation only on the essential facilities and bottlenecks.

Question 11

Do you agree with the proposed Candidate Markets for wholesale national and international leased lines as set out in Section 3.2.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What in your view is the required demarcation point for these wholesale products? Please evidence your response.

4.28 **Ooredoo believes that the market for retail leased lines services is prospectively competitive.** As already explained by Ooredoo, the trunk segment is feasibly replicable by other operators in the country and therefore the provision of wholesale trunk segments are effectively subject to competitive pressures.

4.29 With respect to the terminating segment of leased lines, in the areas where there is no fibre rolled out by QNBN yet, the duct access shall be sufficient to enable competition on retail leased line market to develop in the horizon of next 3 years. Business that utilize leased line services are typically concentrated in the areas that enable efficient fibre rollout (sufficient duct space) and provide commensurate return on this investment (via presence of scale economies). Hence this market does not appear to be exhibit high and non-transitory barriers to entry and shall not be considered a relevant market as such.

4.30 In this respect Ooredoo hereby reiterates the need to define geographic markets, to distinguish between areas where QNBN has, or is expected to, deploy its network, and areas where Ooredoo has not deployed its network (e.g. some mega-developments) and cannot provide duct access.

4.31 Ooredoo does not believe that defining geographic market is excessively complex to implement and monitor. This is done successfully in other jurisdictions and should be even easier to implement in the case of Qatar. Ooredoo is concerned that, without such definition, excessive regulation would be imposed on Ooredoo, even in areas where it does not detain market power.

4.32 Further, Ooredoo does not believe that a separate market for international transit is required, from a regulatory perspective. Ooredoo does not believe that the CRA has sufficiently explained the definition of this market or the need for it and invites the CRA to provide a fuller explanation of its reasoning.

Question 12

Do you agree with the proposed Candidate Markets for wholesale access and call origination on public mobile networks as set out in Section 3.2.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

4.33 **Ooredoo believes that the market for mobile services is currently sufficiently competitive**. Moreover, Ooredoo is not aware of any request for market entry by an MVNO.

4.34 For these reasons, Ooredoo believes that any discussion with regards to origination on mobile networks is premature and should only be conducted in response to a real and concrete request by a potential MVNO. Therefore, **a market for wholesale access and call origination on public mobile network should not be defined**.

Question 13

Do you agree with the proposed Candidate Markets for wholesale call termination on individual mobile networks as set out in Section 3.2.7? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

4.35 **Ooredoo broadly agrees with the current definition of the market for wholesale call termination on a mobile network.**

4.36 However, as noted for the fixed termination market, Ooredoo believes that the CRA should be considering the impact of OTT services. In particular, Ooredoo believes that the CRA should be considering the impact of competition of the current arrangements by which OTTs are allowed to terminate calls on mobile networks whilst not incurring the termination charge. Ooredoo believes that the CRA should be addressing this issue, to ensure that a level playing field exists between OTTs and mobile voice services.

5. Assessment of Candidate Markets with competing infrastructure

5.1 This section provides Ooredoo's response to the specific questions set out in the CRA consultation document with regards to the assessment of mobile service related Candidate Markets with competing infrastructure.

Question 14

Do you agree with the Authority's application of the TCT to markets for residential national mobile voice and broadband services, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.2 **Ooredoo agrees with the CRA that the residential national mobile voice services is a competitive market and as such fails the TCT**.

5.3 To assess a tendency of the market towards competition, the CRA analyses a series of market factors. Ooredoo agrees with the CRA that barriers to expansion for existing operators are low, that pricing trends suggest competition among operators, and that market shares indicate that Vodafone has quickly grown its customer base. Further, the fact that both operators own separate networks lowers expected barriers of expansion in the future. Therefore, Ooredoo agrees with the CRA that the market tends towards competition, thus not satisfying the second criterion of the TCT.

5.4 In conclusion, **Ooredoo agrees that no additional ex-ante regulation should be imposed on this market.**

Question 15

Do you agree with the Authority's application of the TCT to markets for business national mobile voice and broadband services, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.5 **Ooredoo does not agree with the Authority's conclusion that the market for business national mobile should be susceptible to ex-ante regulation**. In particular, it does not believe that the second criterion of the TCT is fulfilled. Ooredoo agrees that since the market has low barriers to expansion and operators own separate network infrastructure, both operators could increase their customer base at a relatively low marginal cost. However, Ooredoo disagrees with the CRA conclusion that the business market does not tend towards competition as shown by the market share analysis conducted by the CRA. The reasons for this are set out below.

Long-term trends in the market suggest future increases in competition are likely

5.6 The market share analysis performed by the CRA is too limited, and the conclusions that competitive conditions have not improved are based on the mere fact that Vodafone's market shares have not increased between 2013 and 2014. A review of Vodafone Qatar mobile market shares up to March 2014 suggests that these have kept increasing, with the customer-based market share increasing by 2 percentage points between 2013 and 2014, and the revenue-based market share increasing by over 3 percentage points in the same period. The CRA argues that the stabilization of market shares over the past year represents sufficient indication that the market will not tend towards competition over the course of the next 3 to 4 years. Ooredoo does not believe that this is sufficient indication of the future market dynamics. Indeed, since 2009, when Vodafone entered the mobile market, Ooredoo's market shares have been decreasing every year, and Vodafone has been able to attract [redacted] of the overall mobile market growth in the period. Vodafone's ability to expand its customers' base indicates that the operator has been able to benefit from economies of scale. In turn, this suggests that over the past years, barriers of expansion have lowered, increasing the likelihood of future competition in the market.

5.7 Furthermore, there is no a priori reason why Vodafone should find it more difficult to penetrate business market than the residential market. Ooredoo believes that Vodafone should be able to continue to competitively challenge Ooredoo in the business market in the next few years, especially given that it should be able to benefit from economies of scale through its growth in both the residential and business market in recent years. The fact that Vodafone has had a less successful growth trajectory in the recent year should not be attributed to market factors; it may have been simply due to internal factors within Vodafone.

Disproportionate reliance on market share analysis and necessity of price trend analysis

5.8 In its analysis of competition, the CRA places too much emphasis on market shares and not enough on the other market indicators. In particular, an analysis of price trends in the market, similar to the one performed for the residential market, is necessary. Moreover, it is generally recognized that business customers are likely to place greater emphasis on quality of service factors than residential customers and therefore it is important that such factors are analyzed in detail by the CRA.

5.9 Further, even though one operator may have higher market shares, it may still be constrained by another operator due to competitive pricing. For example, market shares may have been constant in the last year because Vodafone and Ooredoo both lowered prices in response to each other. In particular, the stagnation in revenue market share may have been partially due to Vodafone's reductions in retail prices for business customers. As such, customers would have benefitted from more competitive prices across the board, and ex-ante regulation would not be required.

Burden of proof in the TCT has not been complied with

5.10 Implied in the 2014 EC recommendation is the necessity for the regulator to demonstrate that the TCT is satisfied (the so-called 'burden of proof'). For example, in the case of newly emerging markets, the EC claims that these markets should be exempted from ex ante regulation on the basis that not enough information is available on them. In this context, Ooredoo believes that in the absence of a price trend analysis and the insufficiency of the market shares analysis, the CRA has not provided sufficient proof that the market satisfied the second criterion of the TCT.

5.11 Overall, Ooredoo believes that the market for voice and broadband mobile services shows a tendency towards competition, and thus does not satisfy the second criterion of the TCT test. The information provided by the CRA is believed to be insufficient to prove otherwise, and in addition of the burden of proof implicitly established by the EC.

Question 16

Do you agree with the Authority's application of the TCT to retail markets for international call services from a residential mobile device and via an OTT service, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.12 Ooredoo would like to reiterate the view presented in its answer to Question 5, that **there should be a single market defined for all international call services, jointly for business and residential customers, and jointly for mobile and fixed customers. This joint market should not be susceptible to ex-ante regulation**.

5.13 However, Ooredoo believes that this conclusion also holds for the sub-market defined here and thus **agrees that the Candidate market defined by the CRA should not be susceptible to ex-ante regulation**.

5.14 Ooredoo agrees that the market tends to be more competitive, as evidenced for example by the market shares that Vodafone has been able to realize and the decline in retail prices. Furthermore, OTT services have provided additional sources of competition in this market. Ooredoo has already submitted evidence for this as part of its last submission and as part of its answer to Question 5.

Question 17

Do you agree with the Authority's application of the TCT to retail international outgoing call via a mobile device for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.15 **Ooredoo agrees that the Candidate market defined by the CRA should not be susceptible to ex-ante regulation**; the same conclusion holds for a more widely defined market for international outgoing call services. In particular, Ooredoo agrees that the market tends toward competition, as evidenced for example by the market shares that Vodafone has been able to achieve in recent years.

Question 18

Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location and via an OTT service for residential customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.16 **Ooredoo does not agree with the CRA's assessment and conclusion that the Candidate market defined by the CRA should be susceptible to ex-ante regulation.**

5.17 As explained in the answer to Question 5, Ooredoo maintains the view that the services encompassing this market should be included in a joint market of international outgoing call services at a fixed location, via a mobile device and OTT service for both residential and business customers. Regardless of this, Ooredoo believes that the market segment described by this Candidate market tends towards competition and also fails the other TCT tests. As such, it should not be regulated ex-ante.

5.18 Firstly, Ooredoo would like to ask the CRA to clarify its assessment in section 4.6.1.2: No tendency to competition – within its consultation document. This is meant to assess the tendency for the market for retail customers to tend to competition, yet in the opening sentence the CRA talks about business customers. In this response, Ooredoo assumes that the CRA is indeed assessing the market for retail customers here.

5.19 Ooredoo agrees that the barriers to entry in this market are low as evidenced by the recent entry of services such as Whatsapp and Viber, as well as Facebook Chat Calls.

5.20 However, Ooredoo does not agree with the CRA that the lack of precise data on market shares allows the CRA to conclude that it has been stable for Ooredoo. As outlined above in its response to Question 15, and as per the EC Recommendation from 2007, the CRA is required to provide proof for failure of the tests in the TCT and the lack of information implies that only insufficient proof is available in order to justify ex-ante regulation in this market. In fact, evidence regarding decreases in revenues from international calls as presented in the answer to Question 5 suggests that Ooredoo faces significant competition from OTT services, not just in the mobile market. To reiterate, for fixed network service subscribers, international minutes of use decreased by [redacted], between Q1 2011 and Q1 2015.

5.21 Furthermore, as mentioned already in several answers, the assessment of competitive conditions needs to be forward looking. Recent entry of important players such as Viber, Whatsapp and Facebook Chat calls suggests that additional competitive pressure can be expected over the review period that is not yet reflected in current data.

5.22 In addition, the lack of adjustment of prices so far should not be interpreted as evidence that Ooredoo is not facing competition in this market segment. Pricing strategies can only be made once the impact of competitive offerings has been analyzed fully.

Question 19

Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

5.23 **Ooredoo does not agree with the CRA in that the Candidate market defined by the CRA should be susceptible to ex-ante regulation**.

5.24 As explained in the answer to Question 5, Ooredoo maintains the view that the services encompassing this market should be included in a joint market of international outgoing call services at a fixed location, via a mobile device and OTT service for both residential and business customers. Regardless, Ooredoo is still of the view that this sub-market also fails the TCT test as it tends to competition and thus should not be susceptible to ex-ante regulation. As such, the arguments used in the answer to Question 18 remain relevant in this context.

5.25 Importantly, Ooredoo has been forced to implement an IP Based unified communication platform (to be launched this year) to address the competition from ICT service providers, providing an alternative to traditional IDD service.

6. Conclusions

6.1 This section summarizes the key aspects of Ooredoo's position in relation to this initial MDDD consultation by the CRA. This section does not repeat all the arguments and conclusions set out by Ooredoo in this document and therefore should be read in conjunction with the rest of this report.

A welcome initiative, marred by an inconsistent approach

6.2 Ooredoo agrees with the CRA that there is a necessity for a fundamental review of the regulatory framework of the telecommunications market is Qatar. In particular, Ooredoo agrees that the focus of ex ante regulation should shift away from retail markets and towards the more upstream wholesale markets.

6.3 Ooredoo also agrees in principle with the revised process for market definition and dominance assessment proposed by the CRA and its four stages:

6.3.1 Market analysis methodology and identification of Candidate Markets;

6.3.2 Competition policy framework;

6.3.3 Identification of Relevant markets and dominance assessment; and

6.3.4 Definition of regulatory remedies.

6.4 However, Ooredoo is concerned that in this first consultation, the CRA appears to have anticipated conclusions on the dominance assessment for some of the markets, and seems to regard these conclusions as final, despite the fact that consultation with the industry on this issue has not yet been conducted. This is contrary to regulatory best practice and Ooredoo urges the CRA to remain open and to have due regard to comments from operators during this process.

Separate geographic markets in fixed market are required

6.5 Ooredoo continues to believe that due to the existence of two parallel networks with different geographic footprints it is necessary to define geographic markets. This was noted by Ooredoo already in its October 2014 response, and Ooredoo is disappointed to note that the CRA has not defined any geographic markets nor provided any appropriate justification for this. In particular, the CRA does not appear to have sufficiently considered the geographic variation in terms of network roll out and QNBN fibre availability.

6.6 The CRA also appears to have failed to consider that Ooredoo and QNBN fibre networks cannot, from a technical point of view, be considered substitutes, as one is largely based on a single-fibre GPON technology whilst the other is largely based on multi-fibre topology. This results in differences in competitive conditions in different geographic areas, as well as in the type of wholesale service that can be provided.

Retail Candidate Markets

6.7 Ooredoo strongly disagrees with the conclusion by the CRA that fixed broadband services should be included in the same market as voice and access services. Ooredoo notes that there is very limited precedent for such conclusion.

6.8 Whether some products are sold in bundles is irrelevant for the purposes of market definition. Indeed, as long as it is possible for customers to purchase services separately, the existence of bundles should not be included as a relevant factor in the definition of markets.

6.9 Ooredoo further believes that the arguments used by the CRA to justify the definition of separate residential and business markets in the mobile voice market are neither sufficient nor correct. However, Ooredoo believes that the same arguments made by the CRA in relation to mobile markets would instead apply to the fixed voice and broadband markets, and that such customer segmentation should be reflected in the market definition. This is because quality of service and other non-price factors are more easily controllable and differentiated in fixed line networks than in mobile networks, and all the differences between packages, marketing strategies, etc. identified by the CRA in the context of mobile services are much more pronounced in the context of fixed line services.

6.10 Ooredoo believes that a single market for IDD services, from either fixed or mobile location, should be defined, encompassing both residential and business segments. Ooredoo believes that the market thus defined tends to competition, as evidenced for example by the market shares that Vodafone has been able to reach. OTT services provide very strong competitive pressures in this market. Therefore, Ooredoo believes that this market should not be subject of ex ante regulation.

Wholesale Candidate Markets

6.11 Ooredoo is disappointed to see that the CRA has decided to continue to ignore the issue of technical feasibility of provision of certain wholesale physical network access services in the context of Ooredoo's network. Ooredoo has already explained that there are fundamental differences between a point-to-point (P-P) fibre network and a GPON network. QNBN has largely deployed a multi-fibre GPON complemented by a P-P network and for this reason is technically able to provide access to its dark fibre. Ooredoo, instead, has only deployed a limited amount of P-P fibre, and has instead opted for a single fibre GPON solution. This is in line with the deployment of fibre by most operators internationally. In a single fibre GPON network, it is not possible to provide access to individual strands of dark fibre. For this reason, Ooredoo notes once again that it is not possible to include dark fibre within the scope of the physical network infrastructure access market, or at least not in relation to Ooredoo's network.

6.12 Moreover, the issue of geographic markets is of particular relevance and importance in this context and Ooredoo invites the CRA to conduct further assessments and provide a fuller and more evidenced explanation for its position.

6.13 Ooredoo also notes that some wholesale network access services, such as site and tower sharing, are already being provided in the market, under commercial arrangements. Ooredoo is not aware of any issues with the current arrangements that would justify regulatory intervention. For this reason, Ooredoo believes that these services should not be included within the scope of Candidate markets.

6.14 Ooredoo also notes that the CRA has attempted to include a laundry list of potential wholesale services without adequate consideration given to exactly what wholesale inputs are required at the retail level and in the context of preserving incentives to continue investing within the market and to develop sustainable competition.

6.15 Finally, Ooredoo notes that at present there is no demand for a number of wholesale markets, which the CRA is trying to define, such as call origination or access to international gateways. Ooredoo believes it would be more appropriate to consider these services only if and when a clear demand for such services arises. In the meantime, these services should not be included within the scope of Candidate markets.

Summary of Ooredoo's position on Candidate markets

6.16 The tables below summarize the CRA and Ooredoo's positions on the definition of the Candidate markets at both retail (Table 1: Candidate Retail Markets: CRA and Ooredoo position) and wholesale level (Table 2: Candidate Wholesale Markets: CRA and Ooredoo position).

Retail markets	CRA's position	Ooredoo's position
Retail national fixed voice and broadband services	Fixed voice, broadband and access services in the same market	Access services, fixed voice and broadband services should be defined to be in separate markets
	Business and residential fixed voice services in the same market	Residential and Business fixed voice services should be defined as separate markets Separately, Residential and Business fixed broadband services should be defined as separate markets
	VoIP not included in the fixed voice market	VoIP should be included in the same market as fixed voice
	No need for defining geographic markets	Geographic markets should be defined
Retail national mobile voice and broadband services	All mobile services are considered in the same market	Agreed
	OTT services not to be included in the same market as mobile voice services	OTT services and mobile voice services should be included in the same market
	Business and Residential mobile services defined as two separate markets	Business and Residential segments should be included in the same market
	No sub-national markets defined	Agreed
Retail international outgoing calls services	Business and Residential markets defined separately	One market including both Residential and Business should be defined
	Fixed and mobile markets defined separately	One market including both fixed and mobile services should be defined
Retail national and international leased lines	National and International defined separately	Agreed
	All speeds and technologies included in the same market	Agreed

Table 1: Candidate Retail Markets: CRA and Ooredoo position

Wholesale markets	CRA's position	Ooredoo's position
Wholesale call origination on public telecommunications networks at a fixed location	Defined as market	No apparent need for this Candidate market definition at this time
Wholesale call termination on individual telecommunications networks at a fixed location	Defined as market	Agreed. But impact of OTT services should be considered
Wholesale physical network infrastructure access	Defined as market	Only duct access should be considered as part of the market Dark fibre should only be considered for QNBN
	No Geographical markets defined	Geographical markets are required
Wholesale access to broadband services at fixed locations	Exclusion of backhaul from the service definition	Disagree – Ooredoo duct access and dark fibre from QNBN is sufficient to provide wholesale inputs at the retail level
	No geographical markets	Need for geographical markets – Ooredoo does not have ducts uniformly across the country, especially some mega projects
Wholesale national and international leased lines	Separate markets for terminating segments and trunk segments of leased lines	Agree with separate candidate markets. However, duct access and dark fibre from QNBN is sufficient to enable retail leased line market competition. These should not be relevant markets.
	Separate market for international transit	International transit should not be a Candidate market
	No geographical markets	Geographical markets should be defined
Wholesale access and call origination on public mobile networks	Defined as a market	No apparent need for this Candidate market definition at this time
Wholesale termination on individual mobile networks	Defined as market	Agreed. But impact of OTT services should be considered

Table 2: Candidate Wholesale Markets: CRA and Ooredoo position

7. Annex 1 – Tables with supporting data evidence

7.1 Tables 1 - 4 below provide data evidence and calculations referenced in the main body of the response document.

Source: MDDD Q1/2015	Q1/2011	Q1/2015	% change
Number of Fixed lines	[redacted]	[redacted]	[redacted]
Total Off-net fixed traffic	[redacted]	[redacted]	[redacted]
Off-net fixed traffic per line per month [minutes]	[redacted]	[redacted]	[redacted]

Table 1: Ooredoo fixed to off-net calling

Source: MDDD Q1/2015 and OTT VoIP measurement	Q1/2012	Q4/2014	% change
Number of Ooredoo's mobile subscribers	[redacted]	[redacted]	[redacted]
VoIP via fixed network [minutes]	[redacted]	[redacted]	[redacted]
VoIP via fixed network per mobile customer [minutes]	[redacted]	[redacted]	[redacted]

Table 2: Ooredoo fixed network VoIP traffic per mobile subscriber

Source: RAS 2009 and 2013	2009	2013	% change
Fixed - Fixed on-net calls [mln] per year	[redacted]	[redacted]	[redacted]

Table 3: Ooredoo fixed to fixed on-net calling

Source: MDDD Q1/2015	Q1/2011	Q1/2015	% change
Number of Ooredoo's mobile subscribers	[redacted]	[redacted]	[redacted]
Mobile international calls revenues QR thousands	[redacted]	[redacted]	[redacted]
International calls at fixed location [minutes]	[redacted]	[redacted]	[redacted]
Revenues from int'l calls at fixed location QR thousands	[redacted]	[redacted]	[redacted]

Table 4: Ooredoo international calls and revenues

VODAFONE'S SUBMISSION TO THE COMMUNICATIONS REGULATORY AUTHORITY'S ("CRA') CONSULTATION DOCUMENT ON MARKET DEFINITION AND DOMINANCE DESIGNATION REVIEW – MARKET DEFINITION AND REVIEW OF CANDIDATE MARKETS DATED 12 MAY 2015 ("CONSULTATION DOCUMENT")

Vodafone Qatar Q.S.C. ("**Vodafone**") appreciates the opportunity to provide comments on the Consultation Document. Vodafone's comments are broken into two parts: Part 1: General Comments and Part 2: Answers to the specific questions in the Consultation Document.

PART 1: GENERAL COMMENTS

1.1 Legal Framework and identification of Candidate Markets

The approach of this consultation is to change the current Market Definition and Dominance Designation ("**MDDD**") methodology to firstly identify candidate markets by means of the Small but Significant Non-transitory Increase in Price ("**SSNIP**") test, and secondly by means of the Three Criteria Test ("**TCT**"), to identify markets where market failure occurs and ex-ante regulatory intervention is required. Markets that are not susceptible to ex-ante regulation are subject to ex-post regulation.

Vodafone notes that this market review differs from the 2010 approach in that the second stage markets which do not pass the Three Criteria Test ("**TCT**") are considered not to be susceptible to ex-ante regulation and therefore a dominance assessment is not made. The CRA describes its process as below:

> *As part of the MDDD process, the Authority identifies the relevant product and geographic markets for retail and wholesale telecommunications services in Qatar to be considered in the MDDD process, consistent with the approach in its Notice of the Standards, Methodology and Analysis to be applied in the Review of MDDD in the Telecommunications sector in Qatar. It then assesses the competitive dynamics in each relevant market in order to identify those markets which it considers are susceptible to ex-ante regulation. It then identifies any dominant service providers (i.e., providers which can act independently of consumers and of other providers) in each of those markets. As a final step, the Authority determines the relevant (ex-ante) regulatory obligations for dominant service provider in each market in order to address the competitive concerns in that market*.[1]

The Consultation Document conflates two processes. The first step is to define markets on the basis of relevant products and services. The second step is then to consider the market power of the participants on those markets. By applying the TCT the CRA is adding an additional test not provided for in the applicable law before assessing dominance. Article 42 of the Telecommunications Law no 34 of 2006 ("**Telecoms Law**") provides that:

> *The General Secretariat shall undertake the designation of the service providers and determination of the extent of their significant market power or dominance in the market*

[1] Consultation Document, p.4.

and must prior to making such designation the General Secretariat shall perform the following:

1. *determine relevant products and services markets including the geographic scope or territory;*
2. *determine the standards and methodology to be applied in determining the degree of market power or other standard of significant market power or dominance in relevant markets; and*
3. *conducting an analysis of the relevant products and services markets through applying the identified standards and methodology in specific circumstances.*

The orders designating service providers as having significant market power or dominance must specify the relevant products and services markets and the standards and methodology and circumstances relied upon to justify such designation.

Article (42) also notes that:

The Executive By-Law. regulations, rules and orders shall specify the standards, methodology and operations for market power designation.

Article (72) of the Telecommunications By-Law No.1 of 2009 ("**Executive By-Law**") sets out the requirements placed upon the General Secretariat as below.

The General Secretariat shall issue a notice which establishes the standards and methodology that it will apply in determining whether Significant Market Power exists in a particular relevant market. The General Secretariat shall publish the methodology on the website of the Supreme Council and may be modified from time to time by it.

The methodology may include the following elements and any other relevant factors which will be applied in accordance with criteria set out in third paragraph of this Article:

(1) definition of the relevant telecommunications market or markets in terms of products and geographic scope.

(2) assessment of market power based on a review of the economic and behavioural characteristics of the relevant market and an examination of the extent to which a Service Provider, acting alone or jointly with others, is in a position to behave independently of customers or competitors.

The methodology may include the following criteria for assessing the degree of market power in a relevant market:

(1) market share.

(2) absolute and relative size of the firm in the relevant market

(3) degree of control of facilities and infrastructure that would be uneconomical for another person to develop to provide services in the relevant market.

(4) economies of scope and scale.

(5) absence of countervailing buyer power, including customer churn characteristics.

(6) structural and strategic barriers to entry and expansion.

(7) any other factors relevant to evaluating the existence of market power in a particular market

The methodology may also provide guidance on the parameters that will be used for measuring market share (number of lines, number of minutes, revenues or other relevant metrics), and for ease of administration, the General Secretariat may, in the absence of evidence to the contrary, may deem that an individual Service Provider with a share of more than 40 percent of the relevant market is a Dominant Service Provider.

The relevant law clearly requires a two-step process whereby markets are defined and market power is assessed and dominance or lack of dominance is declared on the basis of that assessment. The Law and Licenses then specify to a considerable degree the applicable remedies.

Accordingly, Vodafone's view is that the methodology proposed in the Consultation Document is fundamentally incompatible with the Telecommunications Law and Executive By-Law. In Vodafone's view if the intent of the law was that the General Secretariat had the latitude to determine whether or not markets were susceptible to ex-ante regulation or not, even if a firm is clearly dominant in that market, the ex-ante remedies (such as the requirement to have tariffs preapproved) would not be provided for in the Law itself. As ictQATAR noted in the 2010 MDDD process:

The obligations of a DSP are set out in the Applicable Regulatory Framework (ARF) and either apply automatically or are imposed by ictQATAR as required. Most of the obligations affecting DSPs and non-DSPs are largely pre-defined in the ARF.[2]

Furthermore, Vodafone contends that this has been recognised by the Ministry as the new proposed Communications Law provides considerable more flexibility in this regard, giving the CRA discretion in some markets as to when ex-ante remedies are applied.

It is therefore Vodafone's view that the proposed methodology, should the CRA continue with such an approach, will leave the resulting regulatory instrument open to legal challenge. In Vodafone's view there are means of achieving the CRA's objectives without applying a methodology that is not aligned with its legal requirements (See recommendations section below).

1.2 Standards, Methodology and Analysis for the review of Market Definitions and Dominance Designation

Vodafone notes that the CRA is consulting on the Standards, Methodology and Analysis to be applied in the review of Market Definition and Dominance Designation and for Ex post Competition Policy Investigations ("**Methodology Document**") in a separate consultation process. Vodafone submits that its comments on this Consultation Document should be read together with its comments to be submitted on the Methodology Document.

1.3 Application of the Three Criteria Test

Notwithstanding its view that the CRA is applying the TCT at an inappropriate phase of the market analysis, Vodafone also considers that the TCT is wrongly applied.

[2] Notice and Orders of ictQATAR Setting Forth the Methodology and Standards for Determining Market Power and Designations of Qatar Telecom Q.S.C and Vodafone Qatar Q.S.C as Dominant Service Providers in Specified Relevant Markets (ICTRA 2011/10/31) p. 5.

Vodafone notes that the approach used in the Consultation Document is to firstly identify candidate markets by means of the Small but Significant Non-transitory Increase in Price ("**SSNIP**") test, and secondly by means of the Three Criteria Test ("**TCT**"). In general Vodafone has no objection to the SSNIP test and how it is applied by the CRA.

This Consultation Document concludes that three candidate markets (i.e. the markets for *Retail International Outgoing Call Services via a Mobile Device [both for Residential and Business customers] and the market for Mobile Services [Voice and Broadband] for Residential customers*) of the six markets assessed at this time are not susceptible to ex-ante regulation. Vodafone is of the view that these markets pass the TCT if properly applied and are susceptible to ex-ante regulation.

As mentioned above Vodafone believes that the CRA is not applying the TCT correctly. This is supported by the following extract from the European Commission:

> *The European Commission ("**EU**") recommended in 2003 that the TCT be used to test for, and substantiate the requirements for regulatory intervention in an upstream market. In the latest review (2014) of the List of Relevant Markets in the EU the following reiterative steps were used:*
>
> *(i) Is there a problem in the retail market?*
>
> *(ii) Identify the closest, non-replicable wholesale market;*
>
> *(iii) Analyse the wholesale market by applying the TCT;*
>
> *(iv) If Significant Market Power ("SMP") by an operator exists in the wholesale market, impose remedies;*
>
> *(v) Revisit to see if the problem in the retail market is solved;*
>
> *(vi) If the problem is not solved, identify the **next closest non-replicable wholesale market** in the relevant value chain and repeat steps III, IV, V and VI.*
>
> *Remedies can thus be aimed at the fundamental bottleneck, so that regulation can be applied at the retail level only where unavoidable.*

Therefore we believe that even if the first criterion (High barriers to entry) of the TCT is not met for the mobile market in isolation, (i.e. the markets for *Retail International Outgoing Call Services via a Mobile Device [both for Residential and Business customers] and the market for Mobile Services [Voice and Broadband] for Residential customers*), competition problems in the markets still remain.

Based on current revenue market shares – see

Figure 1 and

Figure 2 below, Vodafone is facing declining Revenue Market Share in both International and Pre-paid market segments. Applying the above logic regarding the TCT, the next closest non-replicable wholesale market must now be identified, which is the fixed access market, where major barriers to entry do exist. Thus the first criteria is now met (high barriers to entry), and the second criterion for the mobile market is also met (lack of tendency to competition based on current market shares).

Finally, Vodafone submits that third criterion, a lack of effective competition law is also met, which makes it susceptible to ex-ante retail regulation. The third criterion is discussed in more detail below. It is still the mobile market being tested, even though the high barriers to entry exist in a downstream wholesale market. Thus, if there is a competition related problem in a market the TCT should be applied to its final conclusion.

Figure 1: International Prepaid Revenue Market Share

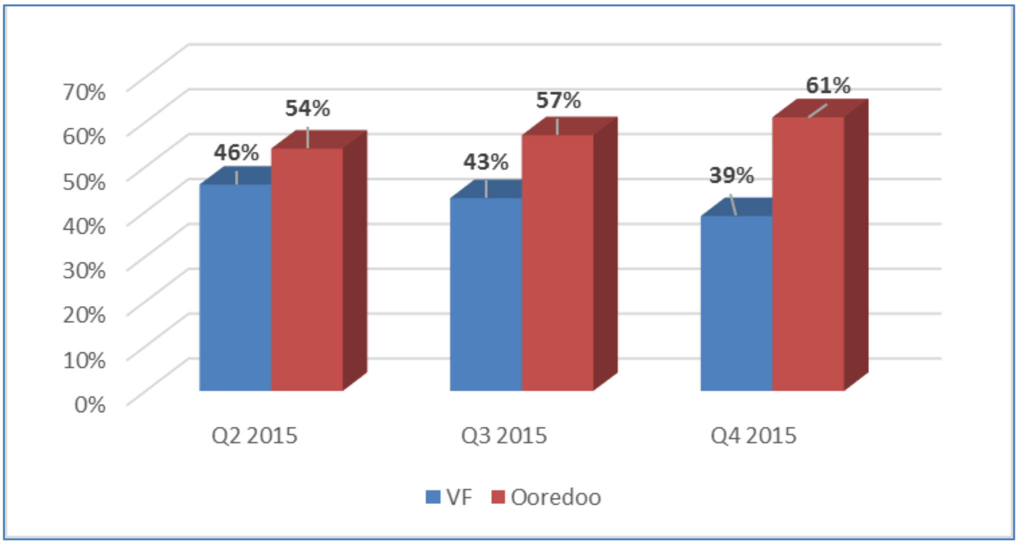
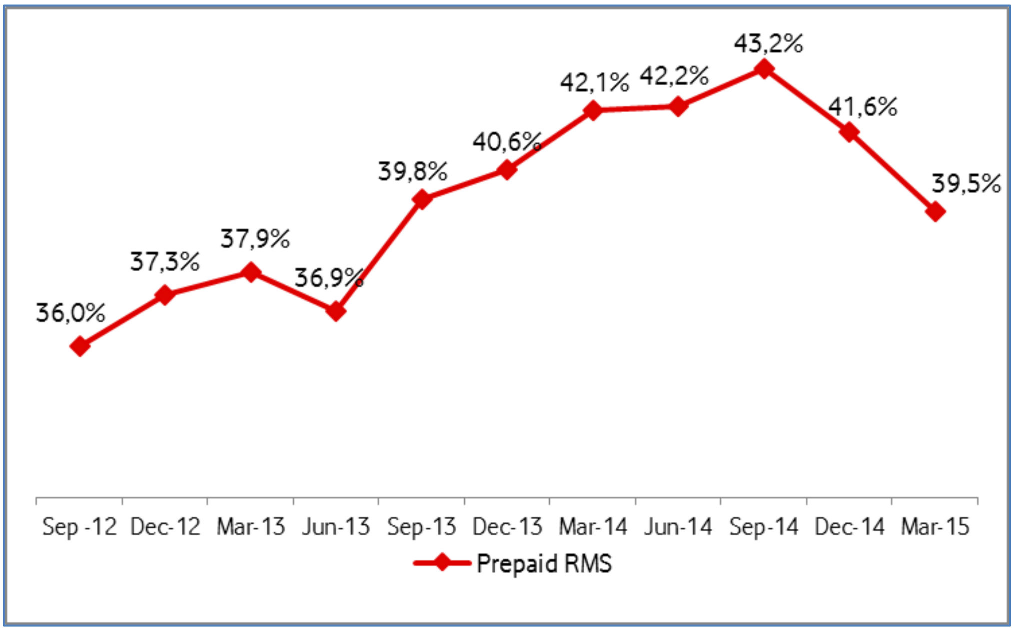


Figure 2: Vodafone Prepaid Revenue Market Share



Insufficient general competition law to address competition problems

Vodafone reiterates its previous comment that the third criteria of the TCT is satisfied a-priori under any circumstance in the Qatari context as existing competition law and frameworks in Qatar are insufficient to deal with competition problems. A similar presumption that competition law remedies are not sufficient to deal with market failures in the electronic communications sector exist in EU markets which have much more mature competition instruments available to ensure effective Ex-post remedies.

The Consultation Document provides that the Authority is currently reviewing its legal framework and is consulting on its Competition Policy for ex-post investigations. The Policy identifies the conduct that is prohibited by the Telecommunications Law and the Telecommunications By-Law and describes how the Authority will investigate conduct which may have infringed the relevant law. Vodafone submits that consultation on the Competition Policy does not satisfy the third criteria of the TCT which measures whether existing ex-post competition law is sufficient to address any potential anti-competitive practice in the market under consideration. Any future competition frameworks that the CRA is developing will have to be tested and proven before a conclusion can be reached when applying the TCT that ex-post competition law is in fact sufficient.

The CRA and the Ministry have identified a lack of enforcement powers as an issue for the ability of the CRA to ensure compliance.[3] The Competition Policy does nothing to improve this. Although there are means by which the CRA can refer Service Providers to the Public Prosecutor to impose penalties this rarely occurs. Thus under the current law the development of the Competition Policy does little to disincentivise any anti-competitive practises.

[3] See for example the National Broadband Plan. P.26.

Furthermore, the already existing mechanisms for dealing with complaints of anti-competitive behaviour are poorly applied. Vodafone's complaints[4] on unlawful retail pricing have not elicited any response from the CRA for 5 months, in direct contravention of Article 3.12 of its own Dispute Resolution Rules. On complaints made with regard to previous anti-competitive actions including breaches of the Retail Tariff Instruction the CRA rejected complaints on the basis that it had referred the matters to its own enforcement department. Over a year later the tariffs in question remain in market and the CRA has not responded to repeated requests for information on the enforcement action taken.

Therefore there is no evidence to suggest that competition law is sufficient to address potential anti-competitive behaviour.

Application of Wholesale Remedies

Vodafone supports light-touch regulatory regimes in well-functioning markets and believes that healthy competition brings the maximum benefits to markets and consumers. Therefore Vodafone does not in principle support indefinite retail regulation in markets that tend towards competitiveness. Vodafone's strong preference is for an effective, functioning wholesale regime which creates a level playing field in support of fair competition.

The TCT relies on the fact that where there are bottlenecks effective regulation will be applied to address those bottlenecks. Vodafone notes that there are significant, ongoing concerns regarding the ability or willingness of the CRA to effectively regulate bottlenecks. Vodafone does not intend to provide an exhaustive list here but notes in particular that:

(i) The Regulatory Authority issued the Instruction to Service Providers, developers and building owners for the installation, operations and access to telecommunications facilities, services and physical infrastructure in the State of Qatar on 25 August 2013. The instruction set out the means by which fibre should be deployed in order to ensure bottlenecks were addressed by making that fibre sharable;

(ii) Notwithstanding the above requirement Vodafone is not aware of the DSP in the relevant wholesale markets deploying any fibre in the required sharable configuration;

(iii) Vodafone requested access to Ooredoo dark fibre on 20 November 2013. As a DSP Ooredoo is required to provide access where technically feasible. Ooredoo has refused to supply access to dark fibre and the CRA has taken no action that Vodafone is aware of to facilitate such access.

Vodafone remains of the view that until such time as remedies for bottlenecks are actually applied there is little prospect for effective competition in retail markets.

[4] Dispute resolution complaint against Ooredoo in accordance with Article 61 of Telecommunications Law 2006 and Dispute Resolution Rules dated 03 December 2014 ("Hala Smart Pack" call rates below the cost standard specified by the CRA); Dispute resolution complaint against Ooredoo Q.S.S in accordance with Article 61 of Telecommunications Law 2006 and Dispute Resolution Rules dated 08 December 2014 (Below cost pricing in the International Calling Market); Dispute resolution complaint against Ooredoo Q.S.C in accordance with Article 61 of Telecommunications Law 2006 and Dispute Resolution Rules dated 09 December 2014 ("Ten Times" data offer is likely below the fully allocated historical cost of providing the service).

1.4 Over the Top ("OTT") and Voice Over Internet Protocol ("VOIP") services as competitive forces in markets

The Consultation Document in defining candidate markets discusses OTT services as available substitutes for retail services. Vodafone acknowledges that OTT services are available and customers do indeed use them, however the provision of such services is illegal under the ARF. By acknowledging that OTT providers are offering telecommunications services and that those services are offered in Qatar the CRA places itself in a somewhat unusual situation. Article (9) of the Telecommunications Law provides that:

> No person shall without a License engage in any of the following practices:
>
> 1. provision of telecommunications services to the public in return for a direct or indirect fee, whether the services are provided to all the public or a segment thereof, including the resale of telecommunications services obtained from another person even if only one person benefits from such a service.

Given that the CRA has a duty to uphold the Telecommunications Law. Including OTT services in a market assessment would imply that the CRA is acknowledging that a significant amount of illegal activity is taking place and it is not taking sufficient action to address that activity.

Vodafone is of the view that competition should be assessed between services provided by licensed Service Providers. Therefore Vodafone considers it inappropriate that these services feature extensively in the Consultation Document and are included as substitutes and / or competitors when assessing competitiveness of markets.

Furthermore, there is an information problem. There is not enough reliable data available to base an important competition assessment of this market on unlicensed OTT service providers. The CRA appears to have relied upon some data from Ooredoo but the basis of the information is unclear to Vodafone.

1.5 Revised approach to wholesale markets

Vodafone supports a more granular approach to wholesale markets to the extent that it may help to map out a more coherent wholesale access policy. We note that the existing ARF provides that an access seeker can seek any service that a DSP is physically capable of providing. However, a more granular analysis can help prioritise the CRA's work-stream in order to make progress on a pro-competitive fixed access strategy. We look forward to supporting the CRA in this regard.

1.6 Recommendations

On the basis of the above Vodafone respectfully makes the following recommendations:

(i) That all candidate markets are included in the dominance assessment rather than excluding some markets through application of the TCT;

(ii) That any concerns about the means by which ex-ante remedies are applied in those markets be addressed through the Retail Tariff Instruction;

(iii) That OTT services be excluded from the market analysis.

The above approach would address concerns that the CRA is goal seeking in an attempt to give effect to commitments made by the Ministry to Ooredoo. A number of the CRA's actions to give effect to the Ministry's commitment have been damaging to Vodafone's perception that it is subject to fair, transparent evidence based regulation. We therefore encourage the CRA to take a cautious approach to the application of the law in this process.

PART 2: ANSWERS TO CONSULTATION QUESTIONS ON THE APPROACH TO DETERMINE THE RELEVANT MARKETS

Amendments to approach to determine Relevant Markets

1. *Do you agree with the proposed approach to defining Candidate Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Candidate Markets in Qatar.*

   Vodafone has no objection to the approach used to define Candidate Markets.

2. *Do you agree with the proposed approach to identifying Relevant Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to identify Relevant Markets in Qatar.*

   Vodafone has significant concerns with the approach to identifying Relevant Markets. These concerns are outlined above. In particular Vodafone does not consider that the approach is aligned with the requirement of the Telecommunications Law and Executive By-Law.

Candidate Markets

3. *Do you agree with the proposed Candidate Market for retail national fixed voice and broadband services as set out in Section 3.1.1 and Section 3.1.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

   Vodafone has no objection to the markets as defined.

4. *Do you agree with the proposed Candidate Markets for retail national mobile voice and broadband services as set out in Section 3.1.3 and Section 3.1.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definitions for these services.*

   Vodafone has no objection to the markets as defined

5. *Do you agree with the proposed Candidate Markets for retail international outgoing call services at a fixed location and via a mobile device as set out in Section 3.1.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

   Vodafone has no objection to the markets as defined

6. *Do you agree with the proposed Candidate Markets for retail national and international leased lines services as set out in Section 3.1.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

   Vodafone has no objection to the markets as defined

7. *Do you agree with the proposed Candidate Markets for wholesale call origination on public telecommunications networks at a fixed location as set out in Section 3.2.1? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

   Vodafone has no objection to the markets as defined

8. *Do you agree with the proposed Candidate Markets for wholesale call termination on individual telecommunications networks at a fixed location as set out in Section 3.2.2? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

   Vodafone has no objection to the markets as defined

9. *Do you agree with the proposed Candidate Markets for wholesale physical network infrastructure access as set out in Section 3.2.3? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.*

   Vodafone supports the CRA's analysis with regard to physical access to mobile masts, towers and monopoles and physical access to dark fibre in the fixed access network and ducts. Furthermore, Vodafone supports the list of uses for duct and dark fibre as outlined on page 59 of the Consultation Document.

   In practical terms there may be difficulties distinguishing between ducts in the access network and ducts that might be considered part of the core network as duct networks can contain both transmission and access fibre. In order to meet the uses outlined on page 59 of the Consultation Document the definitions will need to be carefully considered on the basis of technical information available to the CRA on the existing duct network. In Vodafone's view there are unlikely to be many sections of duct network that do not include access network elements, particularly in urban areas.

10. *Do you agree with the proposed Candidate Markets for wholesale access to broadband services at fixed locations as set out in Section 3.2.4? If not, please provide a comprehensive and evidenced justification for your position and any alternative market*

definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.

Vodafone has no objection to the markets as defined. Vodafone supports the inclusion of an ATM/IP bitstream service in the market as this product can better reflect the economies of scale available to the DSP and therefore lower barriers to entry.

11. *Do you agree with the proposed Candidate Markets for wholesale national and international leased lines as set out in Section 3.2.5? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for the trunk and terminating segments? Please evidence your response.*

    Vodafone has no objection to the markets as defined. In Vodafone's view the most likely demarcation point is a central office containing a trunk node. A trunk segment will most likely connect a central office, whereas a terminating segment will be any service connecting a central office to an access network element.

12. *Do you agree with the proposed Candidate Markets for wholesale access and call origination on public mobile networks as set out in Section 3.2.6? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

    Vodafone has no objection to the markets as defined

13. *Do you agree with the proposed Candidate Markets for wholesale call termination on individual mobile networks as set out in Section 3.2.7? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.*

    Vodafone has no objection to the markets as defined

Assessment of mobile service related Candidate Markets with competing infrastructure

14. *Do you agree with the Authority's application of the TCT to markets for residential national mobile voice and broadband services, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    As discussed in Part 1 it is Vodafone's view that this market meets the TCT criteria, therefore it should be designated as a relevant market susceptible to ex-ante regulation.

15. *Do you agree with the Authority's application of the TCT to markets for business national mobile voice and broadband services, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    Vodafone has no objection to the markets as defined

16. *Do you agree with the Authority's application of the TCT to retail market for international call services from a residential mobile device and via an OTT service, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    As mentioned above, it is Vodafone's view that this market meets the TCT criteria, therefore it should be designated as a relevant market susceptible to ex-ante regulation

17. *Do you agree with the Authority's application of the TCT to retail international outgoing call via a mobile device for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    As mentioned above, it is Vodafone's view that this market meets the TCT criteria, therefore it should be designated as a relevant market susceptible to ex-ante regulation. .

18. *Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location and via a an OTT service for residential customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    Vodafone does not consider it appropriate to include OTT services in the analysis.

19. *Do you agree with the Authority's application of the TCT to retail international outgoing call services at a fixed location for business customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.*

    Vodafone has no objection to the markets as defined

الشركة القطرية لشبكة الحزمة العريضة
Qatar National Broadband Network

June 9, 2015

Mr. Mohammed Al Mannai
President
Communications Regulatory Authority
P.O. Box 23264, Al Nassr Tower
Doha, Qatar

Dear Mohammed,

Subject: Consultation MDDD: Market Definition and Review of Candidate Markets

This Consultation is the latest in a long series of false starts at revising Ooredoo's Market Dominance in three markets, namely the public international telecommunications services (M3), the public national telecommunications service via a mobile device (M6) and the broadband services via a mobile device (M7). This particular Consultation is markedly different as the CRA has appropriately defined the process to be undertaken which is in keeping with sound regulatory practices and in keeping with competition law processes, assessments and legal concepts for dominance designations. Qnbn applauds the CRA in its approach to determining Relevant Markets, its attempt at defining Candidate Markets and its assessment of Candidate Markets with competing infrastructure.

As the CRA appreciates Qnbn is a passive service provider and, as such, plays no role in providing Retail Services to end users. Further, its Wholesale Services activity is limited to providing passive fiber services to other service providers. As such Qnbn would normally have little to contribute to the Consultation at hand.

However, two very important elements compel Qnbn to make significant comments to this proceeding. Firstly, Qnbn has been an active participant in what is now termed the Category 12 Physical Access to Network Infrastructure market (previously M10) and has firsthand experience in dealing with the Dominant Service Provider. Secondly, Qnbn has applied for a Public Fixed Telecommunications License which will permit it to offer active international fixed voice which involves the current M3 Public International Telecommunications Services via fixed or mobile. Ooredoo wants removal of its DSP designation in the M3 Market and the CRA has made it abundantly clear that regulatory treatment would move from *ex ante* to *ex post* treatment. These two important elements give rise to the submissions which follow.

Category 12 Physical Access to Network Infrastructure

To state that access to DSP physical network infrastructure has been an ongoing and, at times, overwhelming challenge would be an understatement. Qnbn does not propose to revisit and restate the numerous difficulties associated with duct access which has been raised on numerous occasions and which is more properly voiced in the context of anti-competitive conduct. However, other physical network infrastructure issues have arisen which can and should be addressed in this Consultation by better defining and using more precise language for the proposed new sub-markets.

Firstly, the DSP continues to maintain that duct infrastructure does not encompass D54 and D56 ducts which are the access ducts into customer premises. These ducts represent the "last mile" component of feeder and drop ducts. Without access to D54 and D56 ducts any other service provider can only achieve a 'homes passed' scenario without the necessary competitive scenario of 'homes connected'. Absent a 'homes connected' framework the DSP maintains an anti-competitive advantage. Introducing appropriate language in the duct sub category of Category 12 would assist in remedying a critical impasse to the Ministry's desire for a 'homes connected' society. The CRA should state categorically that the ducts referenced in one of the sub categories of Category 12 specifically include D54 and D56 ducts.

Secondly, there is a reference to a sub market called "ancillary facilities and colocation space". The Consultation provides little indication as to what wholesale infrastructure falls within these words. More precise language is critical to address two very specific aspects of wholesale physical network infrastructure. Qnbn is of the view that Ooredoo's QDC facility should be specifically identified as captured by the phrase "ancillary facilities and colocation space". In this regard Qnbn incorporates its various Submissions in the QDC proceeding, which is attached for ease of reference. As far as Qnbn is concerned the Appeals Committee's focus on whether access to QDC is a "telecommunications service" is misguided and a red herring. The more pertinent query is whether access to QDC is access to physical network infrastructure. Qnbn respectfully submits that the CRA must broaden its sub market category to encompass QDC like facilities.

The other aspect which has to be clarified with more precise language is the inclusion of international landing stations as constituting "ancillary facilities and colocation space". Given Qnbn's Application for a Public Telecommunications License it will be imperative that it have access to a landing station. Without debating the merits of whether Ooredoo is a DSP in this sub category, the important element is that landing stations should be identified as belonging to Category 12 as a necessary element of ancillary facilities and collocation space. Landing stations are as germane to telecommunications infrastructure as ducts and central offices. They should be specifically recognized as such in this very important proceeding.

If the CRA is to shift its focus from retail markets to wholesale services and economic bottlenecks it has an obligation, whenever possible, to fully and precisely define sub markets in the various wholesale markets. Otherwise it does a serious disservice to service providers as well as to its own stated objectives for regulating wholesale markets.

M3 Public International Telecommunications Services via Fixed or Mobile

In its previous false starts the CRA treated international long distance fixed services and international long distance mobile services as a single market likely deserving of ex post regulation on the basis that Ooredoo was not dominant in the described market. In its Application for a Public Fixed telecommunications License and subsequent meetings and correspondence Qnbn went to great lengths to posture international long distance fixed services as a separate market. In the event that Qnbn is granted its requested license for fixed active services it would be highly unfair to compete with Ooredoo, which as DSP in international fixed, has over 95% of the market, on an *ex poste* basis based on competition in the international mobile market.

Qnbn is pleased that the CRA has made a preliminary conclusion that fixed and mobile IDD services are not a substitute for one another based on different functionality and absence of price elasticity. Further, Qnbn supports the CRA's preliminary conclusion that mobile IDD services are not in the same market as fixed IDD for residential or business subscribers. Qnbn would not take issue with the CRA if it permitted mobile IDD services to be subject to *ex poste* regulation but would strenuously object for competitive reasons if Ooredoo were given a "regulatory pass' on fixed IDD for residential or business subscribers..

National Broadband Plan and Wholesale Services

As the CRA is aware a major tenet of the National Broadband Plan issued by the Ministry is to have the ability of end users to choose between two alternative service providers for their connectivity requirements. Qnbn appreciates that to date the CRA has acceded to Ooredoo's request that it not be required to submit Reference Offers for wholesale services such as dark fiber, bit stream and the like. Obviously this has seriously compromised the NBP objectives for 2016. Nonetheless, Qnbn submits that the CRA should carefully review the Categories of markets for Wholesale Services and satisfy itself that it has not foreclosed its ability to treat active wholesale services differently in the future. Given the recent and pronounced regulatory emphasis upon wholesale services the CRA should be extremely careful and diligent in ensuring markets have been both broadly and specifically defined. Otherwise the DSP may argue in future that a proposed course of action by the CRA does not address a defined market within the context of this Consultation. Qnbn recommends that the CRA revisit its proposed Wholesale Categories in the context of other jurisdictions and satisfy itself that it has composed and structured categories which are 'future proof'. Qnbn further recommends that the CRA reserve ample authority to add and/or better define categories and sub categories. Telecommunication advances are extremely dynamic and it would be a shame if the CRA limited itself with static market categories incapable of properly accommodating evolving services.

Conclusion

As noted above Qnbn simply enjoys a passive services license and is not engaged in providing active retail services or active wholesale services to end users. Accordingly, much of this Consultation and almost all of the various market categories are outside of Qnbn's purview. As such Qnbn does not propose directly responding to the various matters of query raised by the CRA.

However, Qnbn has attentively reviewed the substance of the Consultation as a whole and submits that the CRA has, to a great extent, appropriately determined the Relevant Market categories. Qnbn respectfully requests that the CRA go one step further and provide for the specific sub categories noted above. We look forward to receipt of the CRA's Final Decision on Market Definition by the end of June and participating in Phase II Dominance Designation.

Yours Sincerely,

Philip Brazeau
Head of Regulatory
QNBN

Communications Regulatory Authority
State of Qatar
هيئة تنظيم الاتصالات
دولة قطر

Market Definition and Dominance Designation in Qatar - Market definition and review of Candidate Markets with competing infrastructure
Final Decision

CRA 2015/RAC/009
09 July 2015

Purpose

This document sets out the results of Phase I of the MDDD (Market Definition and Dominance Designation) update in relation to the changes to the MDDD methodology, the list of Candidate Markets to consider as part of the MDDD update and an assessment on the continued need for ex-ante regulation of services in Candidate Markets where Network and Service Providers (NSP) own and operate competing infrastructures.

Background

In line with the requirements under the Telecommunications Law and international best practice, the Communications Regulatory Authority (the Authority, hereafter) regularly reviews the competitive dynamics in the telecommunications sector in order to determine the need for (ex-ante) regulatory intervention. This is referred to as the MDDD process. The need for regular updates of the MDDD is to ensure that any resulting regulation remains up-to-date and in line with the underlying market dynamics.

Following previous MDDDs in 2008 and 2011, the Authority has currently conducted the MDDD update.

The key market developments since 2011 and the resulting need for this update is motivated, amongst others, by the following:

- At the time of the 2011 MDDD, both Vodafone and Qnbn had only recently entered the Qatari telecommunications market as a NSP. Since then, the sector has been characterised by the growth of two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar. Given this, the Authority considers it important to assess the resulting impact of the competitive dynamics in the sector.
- Competition in the fixed voice and broadband services and associated wholesale services has not developed sufficiently so far and Ooredoo remains the only NSP on a national scale.
- Vodafone and QNBN remain reliant on Ooredoo for certain wholesale services.

As part of the 2011 MDDD the Authority further identified three Relevant Markets which, at the time, were considered to be 'dynamic' and thus would be the focus of the MDDD update (with the remaining Relevant Markets being assessed based on market shares, lack of countervailing buying power and the likelihood of further entry) [1]. These markets included the markets for:

- Retail national voice services from a mobile device,
- Retail mobile broadband services and
- Retail outgoing international call services from a fixed location or mobile device.

In June 2014 the Authority issued a policy statement **(2014 Policy Statement)** setting out its overall approach to regulation of the sector going forward.[2] This, amongst others, stated the Authority's focus

[1] This "Shortcut Process" is outlined in the Authority's Notice and Orders on the Methodology and Standards for Determining Market Power 2011 (Notice and Orders 2011)

should be on regulating wholesale markets and prevailing bottlenecks. This is particularly relevant in markets which are characterised by competing national networks, as is the case for mobile voice and broadband services in Qatar, as there may be no bottlenecks in these markets.

In preparation for this MDDD update, the Authority has also reviewed its **MDDD methodology.** This review was based on the obligation recognized by Article 72 of the Executive By-Law 1 of 2009 (**Executive By-Law**) requiring CRA to establish the standards and methodology to be applied in determining SMP status in a relevant market. This has led to the inclusion of a Three Criteria Test (TCT), a commonly applied test to assess the need for ex-ante regulation in a particular service market, based on whether that market exhibits three specific characteristics - i.e.:

- that it has high and non-transitory barriers to entry,
- that it does not tend to effective competition; and
- that competition law would be insufficient to address competitive concerns.

In parallel, the Authority is developing and consulting on a **Competition Policy**, setting out, among others, the approach it will take to examining allegations of anti-competitive behavior by NSPs.

The Process

The current MDDD update is being conducted in two phases:

- **Phase I** – During this initial phase, the Authority has confirmed its proposed changes to the MDDD methodology and developed a list of Candidate Markets to review during the MDDD update. It has further applied the TCT to the Candidate Markets which are characterised by competing infrastructure or other pro-competitive characteristics (such as, competitive pressure, potentially in some sub-markets, from Over-the-Top (OTT) consumer offerings).
- **Phase II** - As part of the second phase, the Authority will then apply the TCT to the remaining Candidate Markets. To the extent that markets meet the TCT, the Authority will then conduct the market analysis and dominance findings for each Relevant Market considered, to determine the regulatory remedies for DSPs.

On 12 May 2015 the Authority consulted on its preliminary results from the Phase I activities (CRA 2015/05/12NC). In particular:

- The implementation of the TCT to the MDDD methodology to identify the markets susceptible to ex-ante regulation
- The proposed list of Candidate Markets to assess as part of the MDDD update

The proposed **new Candidate Markets** contained several changes to the current product markets (as defined under the 2011 MDDD). In particular, the Authority proposed to define:

<u>For retail services</u>

- A single product market for retail fixed access, national calls and fixed broadband services

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[2] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

- Separate product markets for international calls originating at a fixed location and from a mobile device and further separated into a market for residential and business customers
- A single product market for retail mobile voice and mobile broadband services
- Separate product markets for retail national and international leased lines

For wholesale services

- Four new sub-markets within the market for wholesale physical network infrastructure access:
    - Physical access to all relevant NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space
    - Physical access to all relevant NSP's access network dark fibre, relevant ancillary facilities/services and collocation space
    - Physical access to all relevant NSP's and 3rd parties' duct network, relevant ancillary facilities/services and collocation space
    - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, collocation space, cross-connects and other relevant ancillary facilities and/or services)
- Separate product markets for the terminating, trunk and international transit segments of wholesale leased line services

Having applied the T**CT to the proposed Candidate Markets** for retail national mobile voice and broadband services and retail international call services, the Authority preliminary concluded that two Candidate Markets are not susceptible for ex-ante regulation[3]:

- Retail market for national mobile voice and broadband services
- Retail international outgoing international call services via a mobile device

All remaining Candidate Markets will be assessed in more detail as part of Phase II of the MDDD update. The preliminary results from Phase II activities will then also be subject to public consultation, expected in September 2015.

In response to CRA 2015/05/12, the Authority received submissions from Ooredoo, Vodafone Qatar (Vodafone), and Qnbn. The key comments made by each party, along with the Authority's responses can be found in the accompanying Economic Analysis and Response Document CRA 2015/RAC/010. For ease of reference, a brief summary of the main points made by the NSP's is provided below.

- **Ooredoo** agreed on the overall proposed amendments to the MDDD methodology and the proposed approach to determine Candidate Markets and Relevant Markets, but it raised concerns about how this approach was then applied. Ooredoo agreed only with the definition of some of the proposed Candidate Markets and considered that all Candidate Markets to which the TCT was applied should not be susceptible to ex-ante regulation.
- **Vodafone** considered that the proposed amended MDDD methodology was incompatible with the Telecoms Law and Executive By-Law, and that the TCT was incorrectly applied. Whilst it

[3] For the avoidance of doubt, any regular reporting requirements for service providers on these and other services will prevail. This will be further discussed in Phase II of the MDDD update.

stated it had no objection to most of the proposed Candidate Markets, it considered all such markets should remain susceptible to ex-ante regulation.

- **Qnbn** only commented on limited aspects of the consultation. In particular, it supported the proposed Candidate Markets for retail fixed international call services and the continued need for ex-ante regulation of these services. Qnbn also commented on the need to further refine the definitions of wholesale Candidate Markets, to ensure they are both future proof and enable the CRA to implement relevant remedies.

In conducting the economic analysis in accordance with the approach set out in Section 2 the Consultation Document, the Authority considered:

- The relevant submissions by Ooredoo, Qnbn and Vodafone
- Data and information available the Authority
- Information published on the NSP's websites
- International practice in defining economic markets and determining the need for ex-ante regulation on these economic markets

Legal Basis

Decree Law 34 of 2006 on the promulgation of the Telecommunications Law (**Telecommunications Law**) calls for licensing of Network and Service Providers (Article 9) on the one hand, and Spectrum licenses on the other (Article 15).

The Telecommunications Law explicitly provides for the designation of DSPs in Articles 19.5, 23, 27, 40 and 42.

Article 40(1) of the Telecommunications Law entitles the Authority to review the state of competition in the telecommunications markets in the State and exercise its authorities, functions and powers to consolidate competition in the provision of telecommunications services.

Article 40(2) of the Telecommunications Law entitles the Authority to update the competitive policy and related regulations to reflect the state of competition in those markets, and this must be for the purpose of relying on market forces, where sufficient to safeguard the interests of customers and the public.

Article 40(3) of the Telecommunications Law entitles the Authority to determine the criteria that must be applied in the designation of NSPs as having Significant Market Power (SMP), or dominance in identified telecommunications markets and implementing such criteria in any designation process.

Article 42 of the Telecommunications Law provides a legislative framework for the MDDD process, including the requirements of an order specifying the designation.

Article 42 of the Telecommunications Law grants the Authority discretion to consult with service providers or customers or any other interested parties in the course of undertaking the determination of any market, analysis or market power designation in accordance with the provisions of this article.
Article 62 of the Telecommunications Law empowers the Authority to require service providers or others to provide information in the manner and time, necessary for exercising its powers.

The Executive By-Law 1 of 2009 (**Executive By-Law**) empowers the Authority to issue other regulations, decisions, rules, orders, instructions and notices for the implementation of the provisions of the Law and this By-Law (Article 4). The Authority also shall carry out the powers and authorities stipulated in the Law and this By-Law (Article 5) and shall take measures, actions and decisions, as it deems appropriate, to ensure that Licensees and NSPs comply with the provisions of the Law and this By-Law (Article 6).

Article 72 of the Executive By-Law requires the Authority to establish the standards and methodology that it be applied in determining SMP status in a relevant market. Article 72 of the Executive By-Law sets out the criteria that may be included in the methodology to be applied.

According to Article 74 of the Executive By-Law, the Authority shall, from time to time, review its designation of service providers as dominant in the relevant markets and the specific requirements imposed upon those service providers as a result of that designation.

Article 124 of the Executive By-Law obliges the Authority to establish a dispute resolution process should disagreements arise between Service Providers and other entities.

Article 4 of the Emiri Decree No. 42 of 2014 gives the Authority all the powers necessary to encourage competition and prohibit or minimize anti-competitive practices, prevent misuse of any person or entity of its market dominance position, and take all necessary measures to achieve this and protect the rights and interests of the public and service providers in the market, promote transparency and provide advanced, innovative and quality services at affordable prices to meet the needs of the public.

Article 15 of the Emiri Decree No. 42 of 2014 directs the Authority's Regulatory and Competition Affairs Department to determine the criteria to assess, and modify if required, the market dominance status, and lay down economic rules in this regard; develop criteria for the market definitions, follow up market conditions, competition, and the status of a dominant service provider; and develop and identify policies and regulations for all services which will foster a competitive market and serve the interests of the consumers.

Assessment

Amendments to MDDD methodology

The approach brought forward in this document specifies the Authority's implementation of the TCT in the Market Definition stage.

Applying the TCT in the Qatari context aims to focus ex-ante regulation on the markets where it is necessary, by identifying upstream bottlenecks, and avoids ex-ante regulation where competition is possible, and ex-post regulation could be sufficient. Having considered comments from the respondents, the Authority wishes to make clear that barriers to entry and an assessment of the tendency to competition are usually assessed through a modified Greenfield approach, meaning that they are assessed in the first instance under a hypothetical scenario in which no ex-ante regulation is already in place. Where the Authority finds that barriers to entry are high or the tendency to competition is unlikely, the Authority will then in addition consider whether existing or alternative ex-ante wholesale remedies are sufficient to mitigate the concerns.

The evidence that the Authority considers in assessing whether each market passes the TCT will vary from market to market depending on the specific economic context and the data that is available. The types of information that the Authority considers are set out in section 2.3 of the Consultation document.

Candidate Markets

The telecommunications sector in Qatar and elsewhere is dynamic with constant market developments and innovations impacting how services are provided to end users and how NSPs compete against each other in the provision of these services. Recent key market developments include, amongst others:

- Vodafone having established itself as a second national (mobile) network operator offering mobile voice and broadband services with a 99% population coverage and having launched LTE advanced technology and fixed voice and broadband services in selected parts of the country.
- Mobile broadband services becoming widely available, with take-up and usage increasing significantly each year, resulting, amongst others, in an increasing demand for fibre-based backhaul services from mobile sites.
- Qnbn continuing to offer passive network infrastructure in limited parts of the country.
- The continued trend towards bundled product offerings, in particular in fixed voice (i.e., unmetered (local/on-net) calls offered as part the fixed line rental product by both NSPs) and for fixed voice, broadband and TV services (i.e., neither NSP offers standalone fixed broadband).

Having reviewed the market definitions underlying the 2011 MDDD and the key relevant market developments, the Authority has concluded there is a need to amend some of the markets to better reflect the current dynamics in the sector. In particular, the 2015 MDDD Candidate Markets include:

- Sub-markets for Retail fixed access, national calls and fixed broadband services within a wider Candidate Market for retail national fixed voice and broadband services.
- Separate product markets for international calls originating at a fixed location and from a mobile device.
- A retail product market which includes both mobile voice and mobile broadband services for each of residential and business consumers.
- Separate product markets for national and international retail leased lines and separate product markets for the terminating, trunk and international transit segments of wholesale leased line services.
- More refined wholesale markets for physical access to network infrastructure and wholesale broadband access at a fixed location.

All Candidate Markets have been defined, in the exercise, to be national in scope.

Review of Candidate Sub-Markets with competing infrastructure

In this phase of the 2015 MDDD (Phase I) The Authority has reviewed certain of the Candidate Markets to determine whether they pass the TCT, and are therefore susceptible to ex-ante competition. In doing so it has focused, in Phase I, on the markets which are most likely to not be susceptible to ex-ante regulation (the remaining markets will be considered in Phase II). That is those Markets where there are competing infrastructures, or are otherwise more likely to be competitive. Therefore, it has assessed the following markets:

- the market for residential national mobile voice and broadband services;
- the market for business national mobile voice and broadband services;
- the market for residential outgoing international call services via a mobile device;
- the market for business outgoing international call services via a mobile device;

- the market for residential outgoing international call services from a fixed location; and,
- the market for business outgoing international call services from a fixed location

For each market, the Authority applied the TCT. In doing so it considered whether the market had any of the following features. Where the market has each of the three criteria then it is susceptible to ex-ante regulation.

- high and non-transitory barriers to entry;
- no tendency to effective competition; and
- that competition law would be insufficient to address competitive concerns.

The analysis found that all markets were subject to high and non-transitory barriers to entry since mobile and fixed infrastructures required significant investment in sunk costs; and licencing arrangements in Qatar may be a barrier to entry.

In some of the markets there was a tendency to competition. Specifically in the markets for (i) residential national mobile voice and broadband services (ii) residential outgoing international call services via a mobile device, and (iii) business outgoing international call services via a mobile device, Vodafone had established itself as a competitive player. In both the markets for residential national mobile voice and broadband services, and the market for the residential outgoing international call services via a mobile device, Vodafone's market share has grown quickly since its entry. This suggests that it is able to compete strongly with Ooredoo. Further, Vodafone's control over its own infrastructure implies that barriers to expansion are low. Additionally, the Authority concludes that competition law would be sufficient in this market since Vodafone's control over its own infrastructure implies that complex and detailed ex ante remedies would be unlikely to be necessary in this market, or that anti-competitive behavior could lead to irreparable damage. Furthermore, in the context of the market for residential outgoing international call services via a mobile device, the presence of OTT services (such as Skype or Viber) impose an additional competitive constraint on suppliers, []

In contrast, whilst in the business national mobile voice and broadband services market,) Vodafone has successfully entered the market; its penetration is less significant and its share has not grown in the previous twelve months and seems unlikely to go above 40% over this market review period. Therefore, the Authority was unable to conclude at present that the market has a tendency to competition. Furthermore, since converged fixed and mobile products are increasingly important to some business consumers, the Authority considers that the absence of effective wholesale remedies in adjacent wholesale fixed network markets may limit the development of competition for these large business users who value converged mobile and fixed data packages. Given its control of the majority of fixed infrastructure in Qatar, this could therefore give Ooredoo a significant advantage also in the business mobile market, if Vodafone remained unable to access the relevant wholesale products on appropriate terms and conditions.
Therefore, if wholesale remedies were available to support that competitor's ability to offer converged mobile and fixed packages which in turn would enhance its ability to effectively compete in this market, the Authority might well have cause to revisit its conclusions in this decision.

Finally in some sub-markets (such as for residential and business outgoing international call services from a fixed location) Vodafone's share of the market was negligible and therefore the Authority could not conclude that the markets had a tendency to competition. Where relevant, the Authority augmented its analysis with other data on the competitive conditions in the market such as analysis of price trends, or the relevance of OTT offerings as a potential "out of market" competitive constraint. However, there was no evidence that such evidence should lead to broadening of markets.

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In its assessment of whether competition law might be insufficient to address competition concerns, the Authority found that the competition provisions in the Telecommunications Law provide for extensive and comprehensive competition safeguards. Indeed, these will be detailed in the competition policy to be issued in 2015. In addition in the case of mobile markets, the existence of competing mobile infrastructures led the Authority to conclude that ex post regulation could be sufficient. That is because neither party need rely on the other for an important input, and each could freely respond to competitive threats from the other.

One exception to this, however, is the mobile national voice and broadband services market for business customers, given the importance in that market of providers also being able to offer fixed services.
Finally, in the case of residential and business sub-markets for outgoing international call services from a *fixed location* the Authority concluded that ex post competition regulation may not be sufficient since the remedy to anti-competitive behavior could require detailed and forward looking price remedies, which are less appropriate for ex post investigations.

The Authority therefore concludes that the retail markets for: (i) residential national mobile voice and broadband services; (ii) residential outgoing international call services via a mobile device; and (iii) business outgoing international call services via a mobile device are not susceptible to ex-ante regulation going forward.

The Authority will continue to monitor the competitive dynamics in the Candidate Markets (and in particular in national markets for voice and broadband services from a mobile device for both residential and business users). It will therefore continue to require the provision of information and data from the market participants in relation to all Candidate Markets.

Final Determination

The Authority determines that going forward MDDD updates will be conducted based on the revised methodology, as set out in the diagram below. For the avoidance of doubt, this also applies to the current MDDD update.

The Authority determines the following **Candidate Markets** to be relevant for the current MDDD update:

Table 1. 2011 MDDD markets and Candidate Markets for the 2015 MDDD update

2011 MDDD	Final Candidate Market 2015[4]	Key change
Retail services		
M1 - Access to public telecommunications networks at a fixed location M2 - Public national telecommunications services at a fixed location	M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail broadband services	Retail fixed access, national calls and fixed broadband services are treated as sub-markets within the wider Candidate Market for retail national fixed voice and broadband services
M3 - Public international telecommunications services at a fixed location and via a mobile device	M2a - Retail international outgoing call services at a fixed location – Residential customers M2b - Retail international outgoing call services at a fixed location – Business customers M2c - Retail international outgoing call services via a mobile device – Residential customers M2d - Retail international outgoing call services via a mobile device – Business customers	Separate product markets for calls originating at a fixed location and from a mobile device Each product market is further separated into a market for residential and business customers
M4 - Broadband services at a fixed location	M1c - Retail broadband services	Considered as sub-market in the wider Candidate Market for retail national fixed voice and broadband services
M5 - Retail leased lines services	M3 - Retail national leased lines services M4 - Retail international leased lines services	Separate product markets for national and international leased lines
M6 - Public national telecommunications services via a mobile device	M5a - Retail national mobile voice and broadband services – Residential customers M5b - Retail national mobile voice and broadband	Single product market for mobile voice and broadband services Separate markets for residential and business

[4] All proposed Candidate Markets are national in scope. This is in line with the geographic market definitions under the 2011 MDDD.

M7 - Broadband services via a mobile device	services – Business customers	customers
Wholesale services		
M8 - Origination on public telecommunications networks at a fixed location	M6 - Wholesale origination on public telecommunications networks at a fixed location	No change
M9 - Termination on public telecommunications networks at a fixed location	M7 - Wholesale termination on individual telecommunications networks at a fixed location	No change
M10 - Wholesale physical network infrastructure access	M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's and third parties ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, collocation space, cross-connects and other relevant ancillary facilities and/or services).	New sub-markets defined for: (i) physical access to mobile sites, masts, towers, (ii) physical access to dark fibre and ducts and (iii) functional access to international gateway facilities.
M11 - Wholesale access to broadband services at fixed locations	M9 - Wholesale broadband access at a fixed location	No change, but refined demarcation[5] For avoidance of doubts, this may include the backhaul from the OLT to the PoP/PoI
M12 - Wholesale leased lines (regardless of the technology used)	M10 - National trunk segment of (national and international) wholesale leased lines services	Separate product markets for terminating, trunk and international transit segments of leased line services
	M11 - Terminating segment of (national and international) wholesale leased lines services	
	M12 - International transit segment of international wholesale leased lines services	
M13 - Access and origination on public mobile networks	M13 - Wholesale access and origination on public mobile networks	No change
M14 - Termination on public mobile networks	M14 - Wholesale termination on individual mobile networks	No change

The Authority determines the following Candidate Markets not to be susceptible to ex-ante regulation going forward:

- M2c - Retail international outgoing call services via a mobile device – Residential customers
- M2d - Retail international outgoing call services via a mobile device – Business customers

The Authority determines that, currently, Market M5a - Retail national mobile voice and broadband services – Residential customers - is not susceptible to ex-ante regulation. However, if evidence (such as data on market shares) were to suggest that the market no longer had a tendency to competition, the Authority would revisit its decision. Therefore, the Authority will continue to closely monitor this market

[5] This Candidate Market covers active access services from the customer premise to the PoP/PoI of the OLO. PoP/PoI will be defined according to the Dominant Service Provider's (DSP) network structure and when developing the relevant Reference Offers.

(including during Phase II of this MDDD process, and beyond) and examine evidence on the degree of competition observed in it.

The Authority determines the Candidate Market M5b (Retail national mobile voice and broadband services – Business customers) is likely to be susceptible to ex-ante regulation, at least until a well-functioning ex ante remedy is introduced to enable Ooredoo's competitors to effectively and successfully compete in the segment of this market which is characterized by converged fixed and mobile packages. In the event that such a product were available, the Authority recognizes that this market may tend to effective competition and so not be susceptible to ex ante regulation and, as such, might revisit its decision at such a time.

In Phase II of this MDDD process, the Authority will set out its view on the appropriate wholesale access products that could enable rivals to effectively compete. In doing so it will consider whether, for example, Carrier Ethernet and / or MPLS wholesale products are required, and if provided, then whether they would mean that the market tended to effective competition.
Given that, the Authority will continue to monitor the competitive dynamics in the Candidate Markets (and, in particular, in national markets for voice and broadband services from a mobile device for both residential and business users). It will therefore continue to require the provision of information and data from the market participants across all Candidate Markets. This will include the assessment of methodologies used to allocate costs and revenues between the different products and markets.
Further, the Authority considers that the following Candidate Markets remain susceptible to ex-ante regulation going forward as they pass the TCT, and so are considered Relevant Markets for the purpose of the MDDD:

- M2a - Retail international outgoing call services at a fixed location – Residential customers
- M2b - Retail international outgoing call services at a fixed location – Business customers

In view of the above, the Designation of Ooredoo in the Notice and Orders 2011 as a DSP in the market for public national telecommunications services via a mobile device (M2) and broadband services via a mobile device (M7) will not apply to residential customers and the existing obligations set out therein and under the Regulatory Framework (RF) will be removed for these services offered to residential customers only. The Authority will continue to monitor developments in these markets.

Similarly, the Designation of Ooredoo in the Notice and Orders 2011 as a DSP in the market for public international telecommunications services at a fixed location and via a mobile device (M3) will not apply to telecommunications services to international call services from a mobile device for residential customers and the existing obligations set out therein and under the ARF will be removed for these customers only.

However, for the avoidance of doubt, any regular reporting requirements for NSPs on the above and other services will prevail. The Authority will further detail the reporting requirements for each Candidate Market in Phase II of the MDDD update.

During Phase II of the MDDD update, the Authority will, amongst others, further examine the market for retail national voice and broadband services for business customers (M5b) to confirm the need for continued ex-ante regulation of that market. This is because, in the Authority's assessment, the extent to which this market may tend towards competition (and hence the need for ex-ante regulation) may be linked to the availability of additional wholesale products.

All remaining Candidate Markets will also be assessed in more detail as part of Phase II of the MDDD update.

Mohammed Ali Al-Mannai
President of the Communication Regulatory Authority

Dated 9/7/2015

Communications Regulatory Authority
هيئة تنظيم الاتصالات
State of Qatar دولة قطر

Market Definition and Dominance Designation in Qatar - Market definition and review of Candidate Markets with competing infrastructure

Economic Analysis and Response

CRA 2015/RAC/010
09 July 2015

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1 Background

1. The Communications Regulatory Authority (the Authority, hereafter)[1] regularly reviews the competitive dynamics in the telecommunications sector in order to determine the need for **(ex-ante) regulatory intervention**. This is referred to as the "Market Definition and Dominance Designation" (**MDDD**) process. Following previous MDDDs in 2008 and 2011, the Authority is currently conducting the next **MDDD update**.
2. The need for regular updates of the MDDD is to ensure that any resulting regulation remains up-to-date and in line with the underlying market dynamics.
3. The key market developments since 2011 and the resulting need for this update is motivated, amongst others, by the following:
   - At the time of the 2011 MDDD, both Vodafone and Qnbn had only recently entered the Qatari telecommunications market. Since then, the sector has been characterized by the growth of two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar. Given this, the Authority considers it important to assess the resulting impact of the competitive dynamics in the sector.
   - Competition in the fixed voice and broadband services and associated wholesale services has not developed sufficiently so far and Ooredoo remains the only Service Provider (SP) on a national scale.
   - Vodafone remains reliant on Ooredoo for certain wholesale services.
4. In June 2014 the Authority issued a policy statement (2014 Policy Statement) setting out its overall approach to regulation of the sector going forward. This, amongst others, stated a focus on regulating wholesale markets and prevailing bottlenecks. This is particularly relevant in markets which are characterised by competing national networks, as is the case for mobile voice and broadband services in Qatar, as there may be no bottlenecks in these markets.
5. In preparation for this MDDD update, the Authority has reviewed its MDDD methodology. This has led to the inclusion of a **Three Criteria Test (TCT)**, a commonly applied test to assess the need for ex-ante regulation.
6. In parallel, the Authority is developing and consulting on a Competition Policy, setting out the approach it will take when assessing alleged anti-competitive behaviour by SPs. This Policy will then form the basis for ex-post competition investigations by the Authority going forward.

Process

7. The current MDDD update is being conducted in two phases:
   - Phase I – The Authority has developed a list of Candidate Markets and applied the TCT to markets which are characterized by competing infrastructure or other pro-competitive characteristics.

[1] Note: The Authority has been established as an independent regulatory authority as of April 1st, 2014. It takes over the responsibilities of the former Regulatory Authority within the Supreme Council for Information and Communication Technology (ictQATAR). Thus, for consistency, we use the term "The Authority" in this document although in some of the referenced documents the term ictQATAR may still be used.

- Phase II – The Authority will apply the TCT to remaining Candidate Markets, conduct the market analysis and determine regulatory remedies for DSPs.

8. On 12 May 2015 the Authority consulted on its preliminary results from the Phase I activities (CRA 2015/05/12NC). These are summarized in paragraph 9 below.

9. On 9 June 2015 responses were received by Ooredoo and Qnbn. Vodafone submitted its response on 10 June 2015.

10. This document summarizes the stakeholder comments received and sets out the Authority's final position on each of the matters consulted on, taking the stakeholder feedback into consideration.

11. The Final Decision on the Phase I of this MDDD update is published as a separate document [CRA 2015/RAC/009]

Preliminary findings on Phase I activities of the MDDD update

12. In the consultation, the Authority set forth proposals to:
    - Include the TCT in the MDDD methodology to identify the markets susceptible to ex-ante regulation
    - Define a new set of Candidate Markets to assess as part of the MDDD update, which contained several changes to the current product markets (as defined under the 2011 MDDD), most notably:
        - A single product market for residential retail fixed voice and fixed broadband services for residential customers and for retail fixed voice and fixed broadband services for business customers.
        - Separate product markets for international calls originating at a fixed location and from a mobile device, with each product market being further separated into a market for residential and business customers.
        - Separate product markets for retail national and international leased lines.
        - Three new sub-markets within the market for wholesale physical network infrastructure access:
            - Access to mobile sites, masts, towers, including relevant ancillary facilities and collocation space
            - Access to access network dark fibre, ducts, relevant ancillary facilities and collocation space
        - A market for access to and co-location at international gateway facilities
        - Separate product markets for the terminating, trunk and international transit segments of wholesale leased line services.
    - Having applied the TCT to the six proposed Candidate Markets relating to retail national mobile voice and broadband services and retail international call services, the Authority's preliminary conclusion was that three Candidate Markets are not susceptible for ex-ante regulation:
        - The retail market for national mobile voice and broadband services – Residential customers;
        - The retail international outgoing international call services via a mobile device – Residential customers; and
        - The retail international outgoing international call services via a mobile device – Business customers.

2 Approach to determine the Relevant Markets

2.1 Approach to defining Candidate Markets

2.1.1 The Authority's view as expressed in the CD

13. The Authority suggested defining a Candidate Market for a given service as the economic market that includes all demand and supply-side substitutes for this service which a hypothetical monopolist would need to control before being able to profitably raise prices by a small and significant non-transitory amount.

13.1 The approach identifies retail and wholesale markets, while recognizing that wholesale markets are derived from the retail markets.

13.2 Possible demand and supply side substitutes are considered on a relevant product and a relevant geographic dimension. The proposed approach also considers whether different customer segments are sufficiently similar from a demand or supply perspective to be included in the same economic market.

14. The Authority posed the following question:

Question 1	Do you agree with the proposed approach to defining Candidate Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to defining Candidate Markets in Qatar.

2.1.2 SP's Responses to the CD

15. Both ***Qnbn*** and ***Vodafone*** agree with the proposed approach to defining Candidate Markets in the context of the MDDD process.

16. ***Ooredoo*** broadly agrees with the proposed approach to defining Candidate Markets. However, Ooredoo argues that it has specific concerns with the Authority's treatment of products being sold as part of a bundle or exhibiting homogenous market conditions as well as the Authority's seemingly limited assessment of sub-national markets.

16.1 Based on EC recommendations, Ooredoo argues that the fact that two products are sold as a bundle does not necessarily imply that they are part of the same product market. Furthermore, it states that the existence of bundles on the retail level does not impact the wholesale inputs, which remain separate and potentially non-substitutable. Therefore, any regulatory intervention should instead be motivated by ensuring that the individual elements of a bundle can be effectively replicated.

16.2 Ooredoo notes that it is not sufficient to only consider the homogeneity of market conditions to decide whether two products should be part of the same market. Additional factors such as the degree of substitutability should rather be taken into account.

2.1.3 The Authority's Comments and Conclusion

17. The CRA does not accept that it incorrectly defined markets for products sold as bundles, or incorrectly failed to define sub-national geographic markets. In assessing candidate markets the CRA notes that market definition is not an end in itself and as such it should not mechanistically implement the HMT. Rather, the

purpose of market definition is to systematically identify competitive constraints that are present on a market, to aid the assessment of market power, for the purpose of applying ex ante regulation in accordance with Qatari law.

18. In relation to the consideration of bundles in defining market:

18.1 The CRA agrees with Ooredoo that "*the fact that two or more products are sold in a bundle does not necessarily imply that these can be defined to belong to the same market.*" However, in this case it is appropriate to consider the fact that products are sold as bundles when defining markets.

18.2 Ooredoo is wrong to characterize the CRA's position as concluding that it is "*sufficient for products to be sold together in bundles to be considered as part of the same Candidate market* ", and it disagrees with Ooredoo's comment that the fact that "*some products are sold in bundles is irrelevant for the purposes of market definition*"

18.3 Products sold as bundles can be relevant in a number of ways when defining markets. For example in assessing the competitive constraints imposed by different products or services, it may be necessary to consider whether a product sold as a bundle constrains how consumers would respond to a price rise (for example if they are more resistant to switching if they bought bundled products).

18.4 Furthermore, if the competitive conditions of each of the elements of a bundle are similar then it may be practical and proportionate to define the market around the bundle rather than each element of the bundle.

19. In relation to the consideration of geographic markets:

19.1 The CRA disagrees with Ooredoo's statement that it did not appear to have conducted a proper assessment of whether sub-national geographic markets are appropriate or necessary.

For each of the markets considered the CRA assessed the geographic scope of the market. In assessing the retail and wholesale markets the CRA considered whether competitive conditions differed materially between different areas to suggest that market should be defined as regionally or nationally.

2.2 Approach to identifying Relevant Markets

2.2.1 The Authority's view as expressed in the CD

20. Each of the Candidate Markets is subject to the TCT in order to determine whether that market should be classified as a Relevant Market susceptible to ex-ante regulation.

20.1 In order to be a Relevant Market, a Candidate Market must exhibit all three of the following characteristics:

- It must have high and non-transitory barriers to entry;
- It must have a market structure that does not tend towards effective competition within the relevant time horizon of the market review (three to four years); and
- Competition law alone must be considered insufficient to adequately address the market failure(s) concerned.

21. Candidate Markets that fail the TCT are considered (prospectively) competitive and will not be considered further in the current MDDD process.

22. Applying the TCT aims to focus ex-ante regulation on markets where there is a significant risk that dominant service provider could, in the absence of intervention, abuse its market position and cause considerable harm to competition; and avoids

ex-ante regulation being used where competition ex-post competition policies and principles should be sufficient to resolve any anti-competitive behaviour.

23. The Authority posed the following question:

Question 2 Do you agree with the proposed approach to identifying Relevant Markets in the context of the MDDD process in Qatar? If not, please provide a comprehensive and evidenced justification for your position and any alternative approaches to identify Relevant Markets in Qatar.

2.2.2 SP's Responses to the CD

24. ***Qnbn*** agrees with the proposed approach to identifying Relevant Markets in the context of the MDDD process.

24.1 ***Vodafone*** argues that the TCT should be applied at a later stage, i.e. during the dominance assessment and to all Candidate Markets. Additionally, the Authority needs to ensure correct application of the TCT.

25. Furthermore, Vodafone stated that it has significant concerns with the approach to identifying Relevant Markets. It suggests that

- the approach is fundamentally incompatible with the requirement of the Telecommunications Law and Executive By-Law; and that
- the Authority wrongly applies the TCT (compared to EC guidelines) causing incorrect preliminary conclusions on whether some Candidate Markets are susceptible for ex-ante regulation.

25.1 Vodafone argues that the outlined process to apply the TCT to Candidate Markets with competing infrastructure before the market analysis and dominance assessment adds an additional step to the MDDD that is not provided for by the legal framework governing the sector in Qatar. This would leave the resulting regulatory instrument open for legal challenge.

25.2 According to Vodafone, the Authority's application of the TCT should also consider the additional steps recommended by the EC, such as the identification and competition assessment of the next closest non-replicable wholesale market. Vodafone argues that the correct application of the TCT can significantly change the Authority's preliminary decisions on whether markets are susceptible to ex-ante regulation.

25.3 Finally, Vodafone has ongoing concerns regarding the Authority's willingness or ability to effectively regulate bottlenecks. It argues that until remedies for bottlenecks are actually applied, there will be little prospect for effective retail market competition.

26. ***Ooredoo*** agrees with the TCT as the appropriate test to define Relevant Markets. However, Ooredoo is concerned that

- the link between the definition of Candidate and Relevant Markets has not been sufficiently explained;
- the TCT is not applied to all Candidate Markets as some markets are preliminarily defined not to be susceptible to ex-ante regulation before the market analysis and dominance assessment; and that
- the Authority does not intend to reassess the competitive conditions in retail markets once wholesale remedies have been put in place.

26.1 Ooredoo argues that omitting the reassessment of retail markets after the introduction of wholesale remedies can lead to an excessive number of retail markets being identified as Relevant Markets. Ooredoo suggests that if wholesale remedies are successful in addressing competitive concerns in the related retail markets then these retail markets should no longer be considered susceptible for ex-ante regulation.

26.2 Ooredoo is further concerned that the Authority has placed excessive reliance on market share data when applying the TCT. According to the SP, the Authority should also consider pricing trends and behaviors, barriers to expansion, control of infrastructure and indirect competitive constraints such as OTT services.

26.3 Additionally, Ooredoo suggests that the criteria of the TCT should consider for

- criterion 1, the type of barriers to entry (regulatory, structural or legal) as well as the dynamic nature of the market and the minimum scale of operations;
- criterion 2, a realistic assessment of whether competition is likely to emerge in the period under consideration (not necessarily the period of the review) taking into account barriers to expansion and their development over time; and for
- criterion 3, an assessment of whether ex-post competition policy measures have sufficient deterrence effects to prevent potential anti-competitive behaviour.

2.2.3 The Authority's Comments and Conclusion

27. Concerning Vodafone's claim that the Authority cannot apply a TCT methodology the Authority is surprised by Vodafone's change of posture. In the previous consultation conducted by the Authority where the use of a TCT methodology was suggested as a possible way forward, Vodafone did not raise any objection. Further, Vodafone is claiming, on the one hand, throughout its response document, that the Authority shall follow more closely the EU methodology, whereas, on the other hand, it could not rely on a TCT, which is the pillar of the EU approach. This evolution in Vodafone's position could be interpreted as an opportunistic approach rather than a legal analysis.

28. In any case, the Authority does not agree with Vodafone's comment that the TCT is incompatible with the Telecommunications Law and Executive By-Law. As per Article 72 of the Executive By-Law no 1 of 2009 (Executive By-Law) the Authority shall establish the standards and methodology to be applied in determining SMP status in a relevant market. Hence, a TCT Methodology falls within the discretion of the Authority.

29. The Authority considers that the use of the TCT in the Qatari sector and regulatory context may be different to the approach taken in the EU. In its conclusions, the Authority has reflected the specific market and regulatory issues of the Qatari sector. These include the fact that there is a duopoly in mobile markets, and a limited degree of competition in fixed markets. In the application of the TCT to mobile markets where there are competing infrastructures, the Authority considers that the TCT enables it to systematically assess the degree to which competition between operators using competing infrastructures implies that ex ante regulation is inappropriate.

30. The Authority agrees with Vodafone that when applying the TCT to retail markets it may be relevant to consider whether access regulation in wholesale markets affects competition in retail markets such that retail ex ante regulation could be withdrawn. Where the Authority finds that barriers to entry are high or the tendency to competition is unlikely, the Authority will then in addition consider whether existing

ex ante wholesale remedies are sufficient to mitigate the concerns. Furthermore, it agrees that, in common with the EU, the purpose of applying the TCT in the Qatari context is to ensure that remedies can be aimed at fundamental bottlenecks.

31. However, The Authority disagrees with the contention suggested by Vodafone that applying the EU approach (which considers the impact that wholesale access remedies have on competition in retail markets) in this case would lead the Authority to reach a different conclusion. That is because the Authority's decisions relied on the fact that, in the markets considered there were competing infrastructures (as is the case with mobile markets, for instance).

3 Proposed Candidate Markets

3.1 National fixed voice and broadband services

3.1.1 The Authority's view as expressed in the CD

32. As part of the previous MDDD, retail national fixed voice and broadband services were captured in three separate product markets[2] that were national in scope:

- M1 – captured all residential and business fixed line rental services, installation/activation services and narrowband (dial-up) internet services ;
- M2 – captured national fixed voice services (all national calls and fixed-to-mobile calls) for residential and business customers; and
- M4 - captured residential and business broadband services at a fixed location, independent of the technology used to deliver these services.[3]

33. In this MDDD, the Authority came to the preliminary view to define the following Candidate Market that is national in scope:

- Market for retail national fixed voice and broadband services for residential and business customers, independent of the technology used to deliver these services.

<u>Single market for fixed voice and broadband services</u>

33.1 The Authority's preliminary decision to include voice and broadband services in a single market is based on the following observations:

- An increasing trend towards multi-product bundling of these services, which results in end-users making choices based on overall bundled prices rather than prices of individual services within a bundle.
- The market structure and competitive dynamics for these services are today sufficiently similar in Qatar that the Authority would be very likely to reach the same conclusions on the market analysis and dominance designation for both services. As such, from a practical perspective, these services can be considered jointly within a single product market.

<u>Product scope of fixed voice services</u>

33.2 The same reasoning applies to individual fixed voice and access services that are also commonly offered as a bundle by both Vodafone and Ooredoo.

33.3 Furthermore, the Authority is of the preliminary view that mobile voice services and OTT-based VoIP offers cannot be considered substitutes for fixed voice services. This is motivated by the following reasoning:

- Prevailing differences in the product characteristics between retail fixed and mobile voice services cause limited substitutability. This is for example

[2] Note that international outgoing calls from a fixed location were captured in a separate market (M3), discussed in Section 3.5 below.

[3] This included, amongst others, products delivered over copper, fiber and/or fixed-wireless networks (such, as WiMAX).

supported by similar trends in the traffic and connection growth rates for both services and the lack of evidence on increased substitution.

- Access to OTT-based VoIP services requires additional prerequisites such as an internet connection, access to hardware (e.g. laptop, smartphone, etc.) and increased cooperation between the calling parties, which lead to a significantly different usage experience. In addition, significant price differences further limit demand-substitutability.

33.4 The Authority remains of the view that the market for international call services remains distinct from the market for fixed access and local calls.

Product scope of fixed broadband services

33.5 The Authority considers demand- and supply-side substitutability to be sufficiently large to include individual fixed broadband services in the same market. For example, the Authority is of the view that if the price for one bandwidth offer is altered, end-users are likely to consider switching to another bandwidth offer. Substitutability further exists on the supply-side because, to a certain extent, the same access lines and the same routers and transmission technologies can be used to offer different kinds of bandwidths.

33.6 Further, retail mobile broadband services exhibit differences in product characteristics that render those services complements rather than substitutes for retail fixed broadband services and would not justify including these services in a single market.

Geographic scope

33.7 Due to prevailing demand-side and supply-side factors, the Authority further remains of the view that this market is national in scope.

34. The Authority posed the following question:

Question 3	Do you agree with the proposed Candidate Market for retail national fixed voice and broadband services? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.1.2 SP's Responses to the CD

35. ***Qnbn*** did not comment on this question.

36. ***Vodafone*** agrees with the Authority's definition of the Candidate Market.

36.1 Vodafone further notes that OTT services should not be included in any market assessment since these services are illegal under the Applicable Regulatory Framework (ARF). OTT services are provided without a telecommunications License. Therefore, including them in a market assessment would imply that the Authority is acknowledging that a significant amount of illegal activity is taking place while not taking sufficient action to address it.

37. ***Ooredoo*** does not agree with the Authority's definition of the Candidate Market. It argues that:

- access and voice services should not be included in the same market;
- voice and broadband services should not be included in the same market;

- residential and business customer segments should constitute separate markets;
- Over the top (OTT) Voice over Internet Protocol (VoIP) services should be included in the fixed voice service market; and that
- separate geographic markets need to be defined.

37.1 According to Ooredoo, competitive conditions in the voice and access service markets can evolve significantly differently over time, with the voice service segment potentially tending to competition in the future.

37.2 Ooredoo further states that demand substitutability between fixed voice and broadband services is only limited and that the fact that the services are increasingly sold as a bundle is irrelevant. Additionally, the SP argues that it is not sufficient to define a single market for fixed voice and broadband only because their competitive conditions are homogenous. Finally, as stated in 2.1.2, Ooredoo notes that the dominance assessment should be strictly separated from the Candidate Market definition.

37.3 Ooredoo points out that the Authority has already noted that the business and residential customer segments exhibit significantly different demand characteristics that have led the Authority to separate both segments for the Candidate Markets in Section 3.2. Furthermore, it argues that the competitive conditions between the two segments are not homogenous. To support its argument, Ooredoo provides evidence on pricing behavior, ARPU and differences in service provision.

37.4 According to Ooredoo, VoIP services pose an indirect competitive constraint and need therefore be included in the market definition. This is supported by quantitative evidence on the development of OTT services in Qatar. Further, Ooredoo argues that the Authority's argument on the exclusion of VoIP services based on necessary additional prerequisites is spurious. This is the case since the Authority already considers broadband to be part of the same Candidate Market, which can therefore not constitute a barrier to switch. Furthermore, the SP provides quantitative evidence on smartphone penetration in Qatar.

37.5 Finally, Ooredoo considers there to be scope for a more granular definition of geographical markets in Qatar. In particular, the SP states that the Authority should take into account Qnbn's network footprint. Given the technical differences between Qnbn's and Ooredoo's network, the two infrastructures cannot be considered substitutes. Therefore, Ooredoo argues that different geographic areas do not have the same competitive conditions. Further, the SP states that its competition with Vodafone in The Pearl Qatar has led to a significant decrease in retail prices across the country.

3.1.3 The Authority's Comments and Conclusion

38. The Authority confirms its preliminary decision to define a single Candidate Market for retail national fixed voice and broadband services for residential and business customers, independent of the technology used to deliver these services.

<u>Product scope of fixed voice services</u>

38.1 The Authority does not agree with Ooredoo that fixed retail access and voice services should constitute separate markets. While the Authority acknowledges that these services are characterized by limited substitutability and may be considered complements, they are today commonly offered and purchased jointly and therefore typically constitute a single product (i.e. the bundle) for end-users.

38.2 Furthermore, whilst the Authority agrees with Ooredoo that competitive conditions for call and access services can, in principle, be different (i.e. in the absence of regulated wholesale access products, offering access services requires investment into physical network infrastructure while call services can be provided using carrier (pre)selection or calling cards), this is not currently the case in Qatar as there is no active carrier (pre)selection provider in the market. Furthermore, the Authority is unaware of any potential entrant that would consider offering fixed voice services during the time period under consideration in this MDDD. Therefore, the Authority remains of the view that fixed retail access and voice services should be included in the same market.

Single market for fixed voice and broadband services

38.3 The Authority acknowledges that there may be, in principle, limited substitutability between fixed retail voice and fixed retail broadband services and agrees that these services should be considered as different sub-categories. However, while a narrower market definition may be justified, the Authority will very likely to reach the same conclusions on the market analysis and dominance designation for both services. Given this homogeneity of competitive conditions across both services, the Authority sees merits in including fixed retail voice and broadband services in the same Candidate Market for administrative purposes.

Treatment of OTT services

38.4 As part of the consultation document, the Authority has set out its analysis supporting its preliminary conclusions that OTT services do not form part of this product market due to differences in product characteristics, demand trends and price. As part of the consultation responses, the Authority has not received any substantive evidence to the contrary.

38.5 Further, while the Authority notes that a market definition could in principle also include unlicensed services, OTT services are not service providers as defined in the Telecoms Law, and do not provide telecommunications services as defined in the Telecoms Law, and so will not form part of the relevant Candidate Markets. Their potential impact on the competitive dynamics in the Relevant Markets will however be considered as part of the Market Analysis and Dominance Assessment phase.

Customer segmentation

38.6 The Authority remains of the view that a single Candidate Market should be defined for business and residential customers. It agrees with Ooredoo that both customer segments can exhibit differences in demand characteristics and profitability. While these differences in the competitive conditions could potentially evolve further after the introduction of fixed number portability, the Authority does not believe this to be the case during the period under consideration in this MDDD. Therefore, the Authority sees merits in defining a single Candidate Market for residential and business customers at this stage.

Geographic scope

38.7 The Authority does not see merits in the definition of sub-national geographic markets at this stage. It does not agree with Ooredoo that demand and supply conditions are significantly heterogeneous between different parts of the country. While areas with competing active fixed network infrastructure might indeed exist, the Authority does not believe these alternative networks are sufficiently large in scale to alter supply conditions in these areas. However, the Authority's views may evolve should access to these networks not be granted to all SPs in an open access and non-discriminatory manner.

39. Given the above, the Authority confirms its preliminary decision to define a single market for all retail fixed national voice and broadband services, independent of the technology used to deliver these services.

39.1 Further, this market

- includes both the residential and business customer segments;
- does not include OTT services; and
- is national in scope.

3.2 National mobile voice and broadband services

3.2.1 The Authority's view as expressed in the CD

40. As part of the previous MDDD, retail national mobile voice and broadband services were captured in two separate product markets that were national in scope. [4]

- M6 – captured all mobile access, installation/activation and national mobile voice services (all national calls and mobile-to-fixed calls) for residential and business customers
- M7 - captured all mobile broadband services for residential and business customers, independent of the technology used to deliver these services.[5]

41. In this MDDD, the Authority has come to the preliminary view to define the following Candidate Markets that are national in scope:

- Market for national mobile voice and broadband services – Residential customers; and
- Market for national mobile voice and broadband services – Business customers.

<u>Product scope of mobile voice service market</u>

41.1 While the Authority acknowledges that individual mobile voice services are characterised by limited demand-side substitutability, they can in turn be considered supply-side substitutes. For example, a mobile network operator can at a relatively low cost offer mobile on-net, off-net or mobile-to-fixed calls as long as there are no capacity constraints. Additionally, the market structure and competitive dynamics for these services are also sufficiently similar to, from a practical perspective, consider them jointly within a single market.

41.2 Given supply-side and increasingly demand-side substitutability, the Authority does not define separate product markets for pre-paid and post-paid segments.

[4] Note that international outgoing calls via a mobile device were captured in a separate market (M3), discussed in Section 3.5 below.

[5] This includes confined connectivity mobile broadband plans (i.e., separate mobile internet subscription for smartphones, but same SIM card as for mobile voice and data services), dedicated connectivity mobile broadband plans (i.e., data card subscription for mobile internet access via USB modem/dongle, etc.), and occasional mobile internet usage services (i.e., internet usage from smartphone from the same SIM card as for mobile voice and data services).

41.3 The Authority does not consider fixed voice services and OTT-based VoIP offers to be effective substitutes for mobile voice services. This is based on the same reasoning given in 3.1.1. Additionally, the stable average national mobile call traffic per connection between 2011 and 2014 does not suggest that OTT-based services pose a significant competitive constraint for retail national mobile voice services.

41.4 The Authority remains of the view that outgoing international calls from a mobile device exhibit different demand- and supply-side characteristics to require these services to be considered separately from national mobile voice services.

Product scope of mobile broadband service market

41.5 In light of apparent supply-side and potential demand-side substitutability, the Authority preliminary considers all individual retail mobile broadband services within the same product market.

41.6 Fixed retail broadband services exhibit differences in product characteristics that render those services complements rather than substitutes for retail mobile broadband services and would not justify including these services in a single market.

Single market for mobile voice and broadband service market

41.7 The preliminary decision to define a single market for mobile voice and broadband services is based on a high degree of supply side substitutability and an increasing trend towards bundled offers for both services. Given this increased competition in bundled packages, the Authority sees merits in defining a single market for both mobile voice and broadband services.

Customer segmentation

41.8 The Authority's preliminary decision to define separate markets for residential and business customers is based on the limited ability for demand side substitutability due to significant differences in demand characteristics in relation to quality of service, the impact of OTT services as a competitive constraint and segment specific service offerings.

Geographic scope

41.9 Due to prevailing demand-side and supply-side factors, the Authority further remains of the view that these market are national in scope.

42. The Authority posed the following question:

Question 4	Do you agree with the proposed Candidate Market for retail national mobile voice and broadband services? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definitions for these services.

3.2.2 SP's Responses to the CD

43. ***Qnbn*** did not comment on this question.

44. ***Vodafone*** agrees with the Authority's definition of the Candidate Market. Furthermore, Vodafone states that OTT services should not be included in the market definition. This is based on the reasoning presented in 3.1.2.

45. ***Ooredoo*** agrees with the Authority that all mobile services can be considered part of the same market. Furthermore, Ooredoo agrees that no sub-national geographical markets should be defined. However, the SP argues for the definition

of a single market for residential and business customers and the inclusion of OTT services in the market definition.

45.1 Ooredoo's support of a single market for all mobile services is motivated by its assessment of increased substitutability between the different services.

45.2 Ooredoo suggests that the Authority's arguments for separating residential and business markets are more pronounced for the Candidate Markets in Section 3.1. For example, the SP argues that product features such as quality of service are not as easily differentiable in mobile markets as is the case for fixed markets, making a customer segment separation more difficult in retail mobile markets.

45.3 Ooredoo further argues that there is evidence for growing substitutability between OTT services and mobile markets, justifying the inclusion of OTT in the market definition. The SP supports this argument using quantitative evidence.

45.4 As a general comment, Ooredoo notes that there is a growing trend to fixed-mobile broadband substitution driven by increasing speed levels for mobile broadband. Ooredoo therefore believes that the Authority needs to investigate fixed-mobile substitution more carefully in the future.

3.2.3 The Authority's Comments and Conclusion

46. The Authority notes the general support for its proposed product and geographic scope of the market definition. .

Separate market for business and residential customers

46.1 The Authority has reassessed the demand and supply characteristics and competitive conditions for national mobile voice and broadband service offerings for the business and residential customer segments. The Authority agrees with Ooredoo that both segments are currently sufficiently homogenous to, in principle, justify the definition of a single Candidate Market for both segments.

46.2 However, the Authority notes that there are restrictions on demand side substitution between business and residential customers in that residential customers cannot switch to business products. They therefore would not be able to consider business fixed voice and broadband services as a substitute.

46.3 Further, given the forward looking nature of this MDDD, the Authority needs to also consider potential changes in substitutability and competitive conditions during the period under review. The Authority expects there to be significant scope for fixed-to-mobile convergence in the near future which is likely to occur in the business customer segment first

46.4 This will require a SP to be able to offer any-to-any connectivity to compete effectively in the converged market environment, which, in absence of the relevant wholesale products, creates an economic bottleneck for service providers that do not have deployed fixed network infrastructure. In this case, the development of convergence would reduce supply-substitutability since SPs that offer mobile voice and broadband services in the residential customer segment will no longer be able to easily switch to offering converged (fixed and mobile) voice and broadband services for business customers following a SSNIP by a hypothetical monopolist unless they have access to an any-to-any connectivity via fixed network infrastructure.

46.5 Further, the development of fixed-mobile convergence in the business customer segment would also limit demand substitutability since business customers would not be able to substitute a converged business product with a residential product after a SSNIP by a hypothetical monopolist as the latter will not feature converged voice and broadband services.

46.6 Therefore, the Authority acknowledges the potential for significantly different developments of the business and residential customer segments in light of fixed-mobile convergence and will closely monitor these developments going forward. Given this the Authority sees merits in defining separate Candidate Markets for the business and residential customer segments. The Authority recognizes that this may also have an impact on the national fixed voice and broadband services for business customers going forward. However, given the prevailing market structure and competitive dynamics for these services, the Authority sees, from a practical perspective, no need to define separate markets for these customer segments.

Treatment of OTT services

46.7 As stated in section 3.1.3 above, the Authority notes that OTT providers are not service providers as defined in the Telecoms Law, and do not provide telecommunications services as defined in the Telecoms Law and so will not form part of the relevant Candidate Market. As such, the impact of OTT services is only considered as part of the competition assessment (i.e., whether they form a potential constraint on SPs in the relevant economic market).

Fixed to mobile substitution

46.8 The Authority remains of the view that retail national fixed and mobile voice and broadband services do not constitute effective substitutes and should not be included in the same Candidate Market. The Authority does not agree with Ooredoo that retail fixed services are increasingly being substituted with retail mobile voice and broadband services. In the light of prevailing differences in product characteristics, the Authority remains of the view that the two segments constitute complements rather than substitutes.

47. Therefore, the Authority defines a single Candidate Market for retail national voice and broadband services for residential and business customers. This market is national in scope.

3.3 International outgoing call services at a fixed location and via a mobile device

3.3.1 The Authority's view as expressed in the CD

48. As part of the previous MDDD, a single product market (M3) for international outgoing call services (IDD), capturing calls made from a fixed location, via a mobile device and using pre-paid calling cards, was defined. The market was national in scope.

49. In this MDDD, the Authority came to the preliminary view to define the following national Candidate Markets:

- A market for international outgoing calls via a mobile device and including OTT services – Residential customers;
- A market for international outgoing calls via a mobile device – Business customers;

- A market for international outgoing calls at a fixed location including OTT services – Residential customers; and
- A market for international outgoing calls at a fixed location – Business customers.

49.1 The Authority's preliminary decision to define separate markets for calls originating at a fixed location and from a mobile device is based on differences in functionality as well as differences in prices (with higher prices for fixed IDD), with the differences limiting demand side substitution, together with also limited supply side substitution.

49.2 The preliminary decision to define separate markets for residential and business customers is driven by limited demand-side substitutability based on differences in pricing, accessibility (e.g. business products require a valid trading licence), or service provision.

49.3 The Authority preliminarily concludes that OTT services pose a competitive constraint for IDD calls made by residential, but not by business customers:

- The increased price sensitivity of residential customers and their lower sensitivity to quality of service make OTT services a valid substitute for more costly retail IDD services via a mobile device or at a fixed location. This is supported by data showing significant reductions in traditional IDD traffic for residential customers.
- In turn, business customers' typically greater focus on quality of service makes it less likely for those customers to switch from traditional IDD services to OTT-based solutions.

49.4 Concerning the identification of potential supply side substitutes, the Authority preliminarily considers there not to be a scope for a competitive constraint posed by potential entrants as the provision of IDD services requires significant investments and entry in OTT-based solutions is unlikely to be related to the competitive conditions in Qatar.

49.5 Due to prevailing demand-side and supply-side factors, the Authority remains of the view that these markets are national in scope.

50. The Authority posed the following question:

Question 5	Do you agree with the proposed Candidate Market for retail international outgoing call services at a fixed location and via a mobile device? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.3.2 SP's Responses to the CD

51. ***Qnbn*** agrees with the proposed separation of Candidate Markets for international outgoing call services via a mobile device and at a fixed location. Furthermore, Qnbn supports the proposed definition of separate Candidate Markets for services offered to business and residential customers.

52. ***Vodafone*** agrees with the Authority's definition of the Candidate Market. Additionally, it argues not to include OTT services in the market definition. This is motivated by the reasoning in 3.1.2.

53. ***Ooredoo*** disagrees with the Authority's preliminary definition of the Candidate Market. Notably, it disagrees with the separation of residential and business customers into two different markets. Furthermore, Ooredoo argues that on the grounds of increasing fixed-mobile substitution, a single market for retail fixed and mobile IDD outgoing calls should be defined.

53.1 Ooredoo further argues that the fact that it has not changed its price for IDD calls from a fixed location is not sufficient evidence for market power. Given that OTT providers offer on-net calls without charge, Ooredoo states that a reduction of its retail price for IDD calls would be ineffective. Nevertheless, the SP argues that it has lost significant volumes of traffic and associated revenue due to the competitive constraint posed by OTT SPs.

3.3.3 The Authority's Comments and Conclusion

<u>Treatment of OTT services</u>

54. In line with the decision in 3.1.3, the Authority agrees with Vodafone that OTT services should not be considered as part of this Candidate Market. However, the Authority still recognises that OTT services exert a competitive pressure on the IDD services from licensed SPs. As such, the impact of OTT services is only considered as part of the competition assessment (i.e., whether they form a potential constraint on SPs in the relevant economic market) and the Authority does not include OTT services in the market definition of IDD services from a fixed location or from a mobile device.

<u>Separate markets for business and residential customers</u>

55. Having reviewed the comments provided, the Authority has concluded that there should not be a combined market for residential and business customers. This applies to both IDD services from a fixed location and from a mobile device.

56. Although there is a reasonable level of supply side substitutability between the two service groups, as mentioned by Ooredoo, the demand side characteristics drive the differentiation of the two markets.

57. As mentioned in the context of national fixed voice services, the Authority notes that there are restrictions on demand side substitution between business and residential customers in that residential customers cannot switch to business products. They therefore would not be able to consider business IDD services as a substitute.

58. The Authority also considers that OTT services, while not directly part of either market, would have different indirect impacts on residential and business IDD services. Since residential services are typified by price sensitive customers, OTT services exert a stronger competitive constraint on these customers. OTT services are less relevant substitutes to business customers, who are typically focussed on quality of service. The differences in competitive constraints placed by OTT services on business and residential IDD services lead the Authority to form the view that they constitute different markets.

59. The Authority notes the expected convergence of fixed and mobile services over the timespan considered in this document. This is expected to occur in the business segment first, and would lead to different competitive conditions for that group.

<u>Separate markets for services at a fixed location and via a mobile device</u>

60. The Authority maintains its view that there should be separate markets for retail international outgoing call services at a fixed location and via a mobile device. The Authority considers the differences in functionality between services at a fixed location and via a mobile device to not constitute substitutes for one another. The Authority therefore concludes that they are sufficiently different to be considered as separate markets.

3.4 National and international leased lines

61. As part of the previous MDDD, a single product market (M5) for retail leased line services was defined, capturing both national and international leased lines and associated services, irrespective of the technology used to provide leased and dedicated capacity. The market was national in scope.

62. In this MDDD, the Authority has come to the preliminary view to define the following Candidate Markets, both with a national scope:
- A market for retail national leased line services irrespective of the technology used to provide the dedicated capacity; and
- A market for retail international leased line services irrespective of the technology used to provide the dedicated capacity.

62.1 Thus, the Authority has preliminary concluded that:
- all leased line bandwidths should be within a single market;
- physical capacity and virtual capacity based leased line services should be within a single market; and
- point-to-point and point-to-multipoint business connectivity services provided over virtual and physical leased lines should be in the same product market.

This is driven by the existing scope for both demand- and supply-side substitution in each of these markets.

62.2 The Authority's preliminary decision to define separate markets for retail national and international leased line services is driven by differences in competitive conditions between the two product markets. This is based on limited demand-side substitutability between national and international leased line services.

62.3 Due to prevailing demand-side and supply-side factors, the Authority further remains of the view that these markets are national in scope.

63. The Authority posed the following question:

Question 6	Do you agree with the proposed Candidate Market for retail national and international leased lines services? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.4.1 SP's Responses to the CD

64. ***Qnbn*** did not comment on this question.

65. Both ***Ooredoo*** and ***Vodafone*** agree with the Authority's definition of the Candidate Market.

3.4.2 The Authority's Comments and Conclusion

66. Given the general support from SPs for its proposed market definitions for retail leased line services, the Authority defines the following two Candidate Markets, which both are national in scope: .
- Market for retail national leased line services irrespective of the technology used to provide the dedicated capacity; and
- Market for retail international leased line services irrespective of the technology used to provide the dedicated capacity.

3.5 General comments on Candidate Markets for wholesale services

3.5.1 SP's Responses to the CD

67. Further to responding to the consultation questions on each Candidate Market, Qnbn and Vodafone comment on wholesale product market definitions more generally.

67.1 ***Qnbn*** suggests further refining the definitions of all wholesale Candidate Markets to ensure that markets are sufficiently broad and well defined and also take into account international practice. According to Qnbn, these refined delineations are necessary to:

- provide a basis for the implementation and enforcement of regulation going forward; and hence
- to make regulation 'future-proof' and more flexible in handling the dynamic environment in the telecommunications sector.

67.2 ***Vodafone*** generally supports the more granular approach to wholesale markets taken by the Authority. It argues that this approach can progress a pro-competitive fixed access strategy.

3.5.2 The Authority's Comments and Conclusion

68. The Authority notes and welcomes Vodafone's support for the more granular approach to wholesale product market definitions.

69. The Authority can reassure Qnbn that, where applicable in the Qatari market environment, the Authority has given consideration to international practice in defining wholesale markets, whilst still ensuring that the Candidate Markets are reflective of the situation in Qatar. Whilst generally desirable, ensuring that all markets are "sufficiently broad [to be future proof] and well defined" appears difficult to achieve, especially in a dynamics sector such as the telecommunications sector. As such, the Authority has defined the current Candidate Markets around any economic bottlenecks that are relevant today or are likely to become relevant within the timeframe assessed as part of this MDDD update. However, given the dynamic nature of the sector, the Authority considers it important that, following due process, it is able to impose new remedies going forward, in case new economic bottlenecks arise or existing ones are not being addressed adequately.

3.6 Origination on public telecommunications networks at a fixed location

3.6.1 The Authority's view as expressed in the CD

70. As part of the previous MDDD, a single (technology neutral) product market for wholesale call origination services at a fixed location was defined (M8), capturing all call origination services from copper and/or fibre networks.[6] This market was national in scope.

71. In this MDDD, the Authority has come to the preliminary view to adopt the same market definition for these services as under the previous MDDD.

71.1 While there is currently no take-up for these services (beyond self-supply by Ooredoo), the Authority sees merits in retaining a market for wholesale call origination form a fixed location in the set of Candidate Markets. This is to facilitate downstream competition in the retail fixed voice service market going forward.

72. The Authority posed the following question:

Question 7	Do you agree with the proposed Candidate Market for wholesale call origination on public telecommunications networks at a fixed location? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.6.2 SP's Responses to the CD

73. ***Qnbn*** did not comment specifically on this market.

74. ***Ooredoo*** and ***Vodafone*** agree with the Authority's definition of the Candidate Market. However, Ooredoo queried the need for this market given the lack of demand for these services to date.

3.6.3 The Authority's Comments and Conclusion

75. The Authority notes Ooredoo's point on the lack of take-up of these services to date. However, given the forward looking nature of the market review process, the Authority remains of the view that there is merit in retaining this market in order to facilitate the potential for downstream competition to emerge in the retail fixed voice market going forward. In particular, in absence of such market, alternative SPs would have to deploy their own nationwide access network or rely on alternative wholesale services. Both these alternative options entail significant investment and time to implement, which may render them less feasible in the Qatari context.

76. Therefore, the Authority decides to define a Candidate Market for wholesale call origination services from a fixed location, independent of the technology used to deliver these services. This market is national.

3.7 Termination on public telecommunications networks at a fixed location

3.7.1 The Authority's view as expressed in the CD

[6] This includes on-net and off-net call traffic and access to narrowband (dial-up) internet services.

77. As part of the previous MDDD, a (technology neutral) product market for wholesale call termination services on individual networks at a fixed location was defined (M9), capturing all call termination services on copper and/or fibre networks. This market was national in scope.

78.

78.1 The Authority does not believe that demand or supply side substitutability in this market has changed since the previous MDDD. It therefore preliminary concludes to retain the market definition from the previous MDDD.

79. The Authority posed the following question:

Question 8	Do you agree with the proposed Candidate Market for wholesale call termination on individual telecommunications networks at a fixed location? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.7.2 SP's Responses to the CD

80. ***Qnbn*** did not comment specifically on this market.

81. ***Ooredoo*** and ***Vodafone*** agree with the Authority's definition of the Candidate Market.

82. However, Ooredoo stated the need to consider the impact of OTT services. Notably, Ooredoo argues that the Authority needs to ensure a level playing field between providers of OTT services that do currently not incur a termination charge while being allowed to terminate calls on fixed networks.

3.7.3 The Authority's Comments and Conclusion

83. The Authority has considered Ooredoo's position that OTT services could impact the market definition for fixed termination services. However, for OTT to be an effective substitute, allowing service providers (and ultimately consumers) to reach a customer without paying the call termination charge, it must also be an effective substitute at the retail level (i.e., OTT must be an effective substitute for a "traditional" fixed call. However, as discussed in sections 3.1 and 3.3 above, the Authority does not consider this to be the case (i.e., it does not consider that OTT services form part of the relevant retail markets). Given this, OTT services also do not form part of the call termination market

84. Therefore, the Authority decides to define the Candidate Market as wholesale call termination services on public telecommunications networks at a fixed location. This market is again national.

3.8 Physical Network Infrastructure Access

3.8.1 The Authority's view as expressed in the CD

85. As part of the previous MDDD, a single (technology neutral) product market for physical access to passive infrastructure for the supply of domestic and international telecommunications services was defined (M10). This included, but was not limited to access to and use of network and facilities, such as ducts, dark fibre, copper,

sites, towers, international gateway facilities and other facilities. This market was national in scope.

86. In this MDDD, the Authority has come to the preliminary view to define the following Candidate Markets that are national in scope:

- Physical access to mobile masts, towers and monopoles, including access to the relevant ancillary facilities and access to and space in the relevant collocation facilities;
- Physical access to dark fibre in the fixed access network and ducts, including access to the relevant ancillary facilities and access to and space in the relevant collocation facilities; and
- Physical access to and collocation in international gateway facilities.

86.1 Since access to physical network infrastructure forms an input to providing all telecommunications services on a retail level, the Authority took the view, in the consultation, to define more granular sub-markets so to support a targeted approach to remedy design. The Authority's proposal identified and addressed all potential economic bottlenecks, whilst taking into account the current dynamics in the market.

86.2 The Authority is of the preliminary view that in Qatar, economic bottlenecks remain in the access network infrastructure and the international gateway facilities market.

- Setting up, deploying and re-optimising a radio access network (RAN) requires a non-trivial amount of capital investment and can be constrained by limited access to suitable sites, building regulations and other requirements. Additionally, the two existing nationwide RANs in Qatar may further constrain entry or network re-optimisation, which creates an economic bottleneck;
- Ooredoo currently operates the only nationwide fixed access network in Qatar. Therefore, this fixed access network and associated ducts will remain a key bottleneck facility and thus ensuring regulated access to it an important enabler of competition in the relevant downstream markets.
- Setting up a new landing station and attracting international cables to land at these facilities requires an agreement with cable consortia and is likely to be a resource and time intensive exercise for a potential entrant and may not be feasible given the existing landing stations and cables and the overall market size in Qatar.

87. The Authority posed the following question:

Question 9	Do you agree with the proposed Candidate Market for wholesale physical network infrastructure access? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.

3.8.2 SP's Responses to the CD

88. ***Qnbn*** calls for a more precise definition of the proposed sub-markets. In particular, it suggests to more explicitly define the proposed Candidate Markets including the following:

- D54 and D56 ducts should be specifically included as these components are necessary to connect households to fibre networks.

- Data centre-like facilities should be specifically included into the definition of "ancillary facilities and collocations space".
- International landing stations, which are necessary to provide IDD call services, should be specifically included in the definition of "ancillary facilities and collocation space".

88.1 According to Qnbn, the above all represent additional economic bottlenecks and their absence in the specific market definitions could lead to anti-competitive foreclosure by Ooredoo.

89. ***Vodafone*** agrees with the Authority's definition of the candidate market.

89.1 Vodafone suggests using available technical information on duct networks in Qatar to correctly define the Candidate Market. According to Vodafone, many sections of duct networks contain both access and core fibre. Vodafone argues that a clear demarcation between ducts in the access network and ducts in the core network will therefore be difficult.

90. ***Ooredoo*** considers there to be a need to only include physical duct access infrastructure in the definition of the Candidate Market. It argues that in turn

- Sites, masts and towers do not necessitate regulatory intervention since competitive concerns are sufficiently addressed through incentives arising from commercial arrangements (that should stay in place); and that
- Dark fibre should only be considered in relation to Qnbn given that, according to Ooredoo, it is technically impossible to provide access to individual strands of dark fibre on Ooredoo's single fibre GPON network.

90.1 Ooredoo states that focusing the wholesale physical network infrastructure access market on duct access is in line with various international jurisdictions and is sufficient to promote competition. This would create the right balance between encouraging infrastructure competition whilst protecting the investment incentives for the incumbent operator.

90.2 Further, Ooredoo argues that sub-national markets should be defined based on the network footprints of both Qnbn and Ooredoo. It states that it should be free of regulatory intervention in areas where Qnbn has deployed or plans to roll-out its network.

90.3 Finally, Ooredoo suggest that it is premature to consider regulatory intervention at international landing stations. It notes that both Ooredoo and Vodafone operate their own stations and that Ooredoo is not aware of an access request by a third operator.

3.8.3 The Authority's Comments and Conclusion

91. The Authority notes all SPs feedback on the proposed Candidate Markets.

91.1 **Access to mobile sites and towers.** The Authority notes Ooredoo's reference to the existing commercial agreement between itself and Vodafone on access to mobile sites and towers. However, the Authority remains of the view that these facilities constitute a potential economic bottleneck. This is because the Authority at this point is not in a position to exclude the possibility of further market entry going forward at which point, access to sites could become a bottleneck for the entrant. Further, even for the existing mobile network operators there is an expected need to re-optimize their RAN in the advent of 5G services.

91.2 **Duct access.** The Authority notes Qnbn's, Vodafone's and Ooredoo's comments on the duct access sub-market. The objective of defining this (and the other) sub-market is to address a prevailing economic bottleneck in the fixed access network and so to facilitate competition in the 'last mile'. As such, this includes all duct and trenches deployed by all SPs or third parties in Qatar required to connect the PoP with customer premises or mobile sites, including D54 and D56 ducts from the curb to the customer premise (irrespective of whether the duct also contains core network cables).

91.3 **Dark fiber access**. The Authority recognizes potential limitations to providing dark fiber access under a single-fiber GPON infrastructure. However, this constraint does not hold for the alternative fiber network infrastructures deployed in Qatar. As such, the Authority considers this sub-market to remain a relevant component in facilitating downstream competition going forward.

91.4 **Access to international gateway facilities**. The Authority notes Qnbn's and Ooredoo's comments with respect to the cable-landing stations sub-market. Whilst currently both Vodafone and Ooredoo operate their own facilities, given the forward looking nature of this market review process, the Authority cannot rule out any further entry (and the resulting demand for functional access to international gateway facilities) going forward. As such, it remains of the view that there is merit in retaining this sub-market in order to potentially facilitate downstream competition going forward.

91.5 **Access to data center.** The Authority is currently reviewing the access to existing data centers under a separate, ongoing procedure and is thus not in a position to determine whether this represents an economic bottleneck and should thus form a Candidate Market.

91.6 **Geographic scope**. Given that all relevant retail markets are defined as national markets, the Authority sees no need to define sub-national markets in the wholesale physical network infrastructure access market.

92. Given the above, the Authority defines the following sub-markets for physical network access:

- Physical access to mobile masts, towers and monopoles, including access to the relevant ancillary facilities/services and access to and space in the relevant collocation facilities.
- Physical access to dark fiber and ducts in all fixed access networks, including access to the relevant ancillary facilities/services and access to and space in the relevant collocation facilities.
- Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).

3.9 Access to broadband services at fixed locations

3.9.1 The Authority's view as expressed in the CD

93. As part of the previous MDDD, a single (technology neutral) product market for wholesale broadband access services at a fixed location was defined (M11). This market was national in scope.

94. In this MDDD, the Authority has come to the preliminary view to define the following Candidate Market which is national in scope:

- Market for wholesale broadband access at a fixed location (excluding any associated core network transport) independent of the technology used to deliver these services.

95. There are two relevant services in this product market: (i) bitstream access and Virtual Unbundled Loop Access (VULA) services (the latter being required for Ooredoo's GPON network). Further, as set out in the consultation document, there are different bitstream products, varying in the degree of investment required by the access seeker.

96. The Authority currently holds limited evidence on the demand for (or switching between) the DSLAM (or equivalent) and ATM/IP bitstream access options in Qatar. The Authority considers the fixed access network to constitute the key bottleneck facility, as core network infrastructure appears replicable in the context of Qatar. As such, it is of the preliminary view to delineate the market at the access network (i.e., to only include a DSLAM bitstream access in the relevant product market).

97. Whilst in some areas, dual network infrastructure from Qnbn and Ooredoo is in place and the competitive dynamics vary, the Authority remains of the view that this does not warrant the application of sub-national markets. The proposed Candidate Market is therefore national in scope, which is also in line with the relevant downstream market.

98. The Authority posed the following question:

Question 10	Do you agree with the proposed Candidate Market for wholesale access to broadband services at fixed locations? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.

3.9.2 SP's Responses to the CD

99. ***Qnbn*** did not comment specifically on this market.

100. ***Vodafone*** supports the inclusion of an ATM/IP bitstream service as this product better reflects the economies of scale available to the DSP and therefore lowers the barriers to entry.

101. ***Ooredoo*** agrees with the proposed demarcation point (i.e., excluding backhaul), but it does not agree with the Authority's preliminary decision to define a national market. This is based on the different competitive conditions created by the existence or planned roll-out of Qnbn's network infrastructure in some areas.

3.9.3 The Authority's Comments and Conclusion

102. The Authority notes Ooredoo's and Vodafone's comments on product market definitions. In line with the approach to all other wholesale markets, the focus for this market definition is on the underlying economic bottleneck under all relevant fixed network infrastructures currently deployed in Qatar. In particular, as recognised in the CD, the market definition needs to cover both bitstream and (VULA services. The Authority understands that in Qatar the most suitable hand-over-point is:

- PoP or PoI[1] for bitstream services; and
- the OLT for VULA services.

102.1 Given this, the Authority concludes that the Candidate Market for wholesale broadband access services at a fixed location covers active access services from the customer premise to the Ethernet switch, OLT or alternative PoP or PoI as defined when developing the Reference Offers.

3.10 Wholesale leased lines

3.10.1 The Authority's view as expressed in the CD

103. As part of the previous MDDD, a single product market for wholesale leased line services was defined (M12). This includes both national and international leased lines and associated services, irrespective of the technology used to provide leased and dedicated capacity. This market was national in scope.

104. In this MDDD, the Authority has come to the preliminary view that it is appropriate to define the following Candidate Markets that are national in scope:

- A market for the terminating segment of (national and international) wholesale leased lines services, independent of the technology used to deliver these services;
- A market for the national trunk segment of (national and international) wholesale leased lines services, independent of the technology used to deliver these services; and
- A market for the international transit segment of international wholesale leased lines services.

104.1 The Authority has preliminarily decided to include physical point-to-point leased lines, point-to-point and point-to-multipoint virtual leased lines, along with all bandwidths of these services in a single Candidate Market. This is motivated by a sufficient degree of demand and supply side substitution between the different services.

104.2 The Authority's preliminary decision to define separate product markets for terminating and trunk segments is based on focusing ex-ante regulation on key bottlenecks only. There is limited scope for both supply- and demand-side substitution, which is driven by differences in functionality between the two services and the high level of sunk costs required to deploy terminating segments, i.e. creating an economic bottleneck.

105. Due to the prevailing demand and supply characteristics, the Authority remains of the view that all wholesale leased line related product markets are national in scope.

106. The Authority posed the following question:

Question 11 Do you agree with the proposed Candidate Market for wholesale national and international leased lines? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition

[1] These Points will be then accurately defined when developing the Reference Offers.

for these services. What, in your view, is the required demarcation point for these wholesale products? Please evidence your response.

3.10.2 SP's Responses to the CD

107. ***Qnbn*** did not comment on this question.

108. ***Vodafone*** agrees with the Authority's definition of the Candidate Market. Vodafone argues that the most likely demarcation point is a central office containing a trunk node. It argues that a trunk segment most likely connects a central office, while a terminating segment will connect a central office to an access network element.

109. **Ooredoo** agrees with defining separate markets for the termination and trunk segments of wholesale leased lines. However, it argues that

- Separate geographic markets need to be defined to differentiate between areas where Qnbn is present and areas where it does not have or does not plan to roll-out network infrastructure;
- in relation to terminating segments and in areas where Qnbn is not present, regulation of duct access is sufficient to promote competition in the horizon of the next 3 years; and that
- a separate market for international transit segments is not required, while also arguing that the Authority has not sufficiently explained the definition of this market.

3.10.3 The Authority's Comments and Conclusion

110. The Authority notes the general support for separate markets for the termination and trunk segment of wholesale leased line services.

111. The Authority notes the support by Vodafone and Ooredoo on defining separate markets for the termination and trunk segments and Vodafone's proposed demarcation at the Central Office (CO) trunk node.

112. The wholesale international transit segment forms an input to retail international leased lines. In particular, further to the terminating segment from the customer premise to the PoP and a trunk segment from the PoP to the international gateway, retail international leased lines also require international transit capacity from the international gateway to the PoP of the SP at the other end of the international leased line. The Authority wishes to further assess the competitive dynamics in this segment as part of this MDDD update. As such, this segment will be a Candidate Market.

113. The Authority further notes the ongoing transition to Ethernet based leased lines in Qatar. Whilst this may change the service offerings going forward, the Authority expects the current economic bottlenecks in the terminating segments (i.e., for the transit from the Point of Presence (PoP) to the customer premises or the mobile site) will prevail. It further considers it likely that the appropriate demarcation point between the trunk and terminating segment will remain to be the CO trunk node.

114. The need to define sub-national markets is linked to the geographic scope of the relevant retail market. This has been defined as being national in scope (and Ooredoo has not commented on this preliminary conclusion as part of its consultation response).

115. Therefore, the Authority defines the following Candidate Markets for wholesale leased line services:

- A market for the national trunk segment of (national and international) wholesale leased lines services (i.e., for the transit from the CO trunk node/PoP to another CO trunk node/PoP or the international gateway facilities), independent of the technology used to deliver these services
- A market for the terminating segment of (national and international) wholesale leased lines services (i.e., for the transit from the CO trunk node/PoP to the customer premises or the mobile site), independent of the technology used to deliver these services.
- A market for the international transit segment of international wholesale leased lines services (i.e., for the transit from the international gateway facility to the PoP of the SP at the other end of the international leased line).

3.11 Access and origination on public mobile networks

3.11.1 The Authority's view as expressed in the CD

116. As part of the previous MDDD, a single product market for wholesale access and call origination services on mobile networks was defined (M13), capturing all access and origination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls) on Ooredoo's and Vodafone's mobile networks. This market was national in scope.

116.1 The Authority recognises the limited demand for these wholesale services to date. However, the principle justification and market dynamics remain unchanged to those underpinning the previous MDDD[7]. Given this, the Authority considers it appropriate to retain the market definition from the previous MDDD.

117. The Authority posed the following question:

Question 12	Do you agree with the proposed Candidate Market for wholesale access and call origination on public mobile networks? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.11.2 SP's Responses to the CD

118. ***Qnbn*** did not comment specifically on this market.

119. ***Ooredoo*** and ***Vodafone*** agree with the Authority's definition of the Candidate Market. However, Ooredoo queried the need for this market given the lack of demand for these services to date.

3.11.3 The Authority's Comments and Conclusion

120. The Authority notes Ooredoo's point on the lack of take-up of these services to date. However, as set out in section 3.5.3 above, given the forward looking nature of the market review process, the Authority remains of the view that there is merit in

[7] This market again covers all access and origination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls)

retaining this market in order to facilitate downstream competition in the retail fixed voice market going forward.

121. Therefore, the Authority decides to define a Candidate Market for wholesale access and call origination services on public mobile networks, which is national in scope.

3.12 Termination on public mobile networks

3.12.1 The Authority's view as expressed in the CD

122. As part of the previous MDDD, a single product market for wholesale termination services on individual mobile networks was defined (M14), capturing all termination service (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls) on Ooredoo's and Vodafone's mobile networks, respectively. This market was national in scope.

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122.1 Given the limited market developments requiring any amendments to the previous market definition, the Authority sees merits in retaining the market definition from the previous MDDD[8].

123. The Authority posed the following question:

Question 13	Do you agree with the proposed Candidate Market for wholesale call termination on individual mobile networks? If not, please provide a comprehensive and evidenced justification for your position and any alternative market definition for these services.

3.12.2 SP's Responses to the CD

124. ***Qnbn*** did not comment specifically on this market.

125. ***Ooredoo*** and ***Vodafone*** agree with the Authority's definition of the Candidate Market. However, Ooredoo stated the need to consider the impact of OTT services in line with the reasoning under section 3.7.

3.12.3 The Authority's Comments and Conclusion

126. For the same reasons as set out in in section 3.6.3 above in the context of wholesale call termination services on individual fixed networks, the Authority considers Ooredoo's statement on the need to consider the impact of OTT services on this market not relevant to the market definition for this service.

127. Therefore, the Authority decides to define the Candidate Market as wholesale call termination services on individual mobile networks. This market again covers all termination services and is national.

[8] This market again covers all termination services (i.e., this includes, but is not limited to voice calls, SMS, MMS and video calls)

4 Assessment of Candidate Markets with competing infrastructure

4.1 Market for residential national mobile voice and broadband services

4.1.1 The Authority's view as expressed in the CD

128. After application of the TCT, the Authority provisionally concluded in the CD that the retail market for residential mobile voice and broadband services is not susceptible to ex-ante regulation.

128.1 This is because, despite high barriers to entry, there is a tendency to competition in the market, which is illustrated not just by Vodafone's successful entry and expansion, but also the strong price competition between the service providers.

128.2 Furthermore, the Authority considers that ex-post regulation and the application of competition law is likely to be sufficient as there is already a degree of competition in the market that disciplines market participants and none of the parties rely on others for provision of access services to supply their products, hence the scope to engage in harmful anti-competitive conduct is less, than where competitors rely on the incumbent's services as important inputs.

129. The Authority posed the following question:

Question 14 Do you agree with the Authority's application of the TCT to the market for residential national mobile voice and broadband services, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.1.2 SP's Responses to the CD

130. ***Qnbn*** did not comment on this question.

131. ***Vodafone*** agrees with the application of the TCT. However, it does not agree with the Authority's preliminary conclusion and argues that the Candidate Market meets all three TCT criteria and is therefore susceptible to ex-ante regulation.

131.1 According to Vodafone, applying EC recommendations for the application of TCTs and taking into account the fixed access market as the next closest non-replicable wholesale market, the Candidate Market is characterized by high barriers to entry and imbalanced market shares that prevent a tendency to competition.

131.2 Furthermore, Vodafone notes that the existing general competition law is not sufficient to address competition problems. While the SP recognizes that the Authority is in parallel consulting on a new Competition Policy, the assessment of the TCT should not be based on future Competition Policy without prior testing.

132. ***Ooredoo*** agrees with the Authority's preliminary decision that the Candidate Market is not susceptible for ex-ante regulation.

4.1.3 The Authority's Comments and Conclusion

133. Having carefully considered the responses to the consultation, the Authority remains of the view that the TCT is not passed in the case of residential national mobile

voice and broadband services. Therefore, this market is not susceptible to ex ante regulation going forward.

134. This is because The Authority believes that the market shows a tendency to competition, notwithstanding a recent decline in Vodafone's share in some segments of the market. In particular:

134.1 The Authority recognizes evidence presented by Vodafone that its revenue based market shares in pre-pay and international segments has declined since September 2014. While this evidence, of itself, does not negate the Authority's preliminary conclusion that there is a tendency to competition in the market, if this trend were to continue, the Authority may revisit its conclusions. As stated by the Authority in its consultation, the fact that there are competing end to end infrastructures mean that consumers benefit from competition between different providers who each own and control their own infrastructure. Furthermore, there is no compelling evidence that suggests there to be barriers to expansion that would not allow Vodafone to increase its market share in the residential market over the period under consideration in this MDDD.

134.2 For the reasons set out above the Authority does not mechanistically apply the EU approach to the TCT. Notwithstanding this, even if it were to apply this standard as Vodafone suggests, the Authority does not consider that the fixed access market is a relevant wholesale market (upstream from the residential national mobile voice and broadband services). More generally, there does not appear to be a significant upstream bottleneck in this market as both operators own and control their own infrastructures.

135. The Authority also disagrees with Vodafone's contention that competition law will not be sufficient to deal with competition problems. The Authority continues to believe that the third criterion of the TCT is not met (i.e., The Authority notes that ex post competition is sufficient). In particular:

135.1 As Vodafone notes, the Authority is consulting on a Competition Policy. The Authority does not consider that "*any future competition frameworks that the CRA is developing will have to be tested and proven before a conclusion can be reached when applying the TCT that ex-post competition law is in fact sufficient.*[9]" This is because the Competition Policy is a statement and articulation of the current law in Qatar, it does not propose new powers or prohibitions. Second, Vodafone's position is illogical since it suggests that ex ante regulation should be maintained until the there is sufficient experience in applying Competition Policy ex post. However, experience in applying ex post Competition Policy is not likely in markets where the CRA applies ex ante regulation.

4.2 Market for business national mobile voice and broadband services

4.2.1 The Authority's view as expressed in the CD

[9] Vodafone response page 6.

136. After application of the TCT, the Authority provisionally concluded that retail markets for business mobile voice and broadband services are susceptible to ex-ante regulation.

136.1 This is because the market is characterized by high barriers to entry and that, despite Vodafone's successful entry and initial expansion, its share has not grown in the previous twelve months and seems unlikely to breach 40% in the foreseeable future over this market review period.

136.2 The Authority's view is that the application of competition law would be sufficient. However for the above reason, it cannot conclude that the market will have a tendency to competition, thus making it susceptible to ex-ante regulation.

137. The Authority posed the following question:

Question 15	Do you agree with the Authority's application of the TCT to the market for business national mobile voice and broadband services, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.2.2 SP's Responses to the CD

138. ***Qnbn*** did not comment on this question.

139. ***Vodafone*** agrees with the Authority's preliminary decision.

140. ***Ooredoo*** does not agree with the Authority's preliminary decision that the market is susceptible to ex-ante regulation. In particular, Ooredoo argues that the Candidate Market fails the second criterion and that it is tending to competition.

140.1 Ooredoo argues that the Authority's assessment of the markets tendency to competition is too focused on the analysis of market share evidence. Instead, Ooredoo suggests to also consider price trend analysis. Ooredoo presents evidence that Vodafone has attracted 80% of the mobile market growth since it entered the market in 2009. According to Ooredoo, Vodafone's ability to expand its customer base shows that it benefits from economies of scale.

140.2 Ooredoo further states that the fact that Vodafone has had less success penetrating the retail mobile business customer market is not sufficient to conclude that Vodafone is not competitively constraining Ooredoo in the market. According to Ooredoo, this could further be assessed using price trend analysis.

140.3 Finally, Ooredoo argues that in the absence of price trend analysis, the Authority has not provided sufficient burden of proof, as required by EC recommendation, that the TCT is satisfied.

4.2.3 The Authority's Comments and Conclusion

141. Having further assessed the market and having carefully considered the responses to its consultation on its preliminary conclusions, the Authority is of the view that the TCT is likely to have passed in the case of business national mobile voice and broadband services, and therefore that the market remains, at the present time, potentially susceptible to ex ante regulation.

142. In particular, the Authority has considered the arguments put to it by Oordeoo in relation to the second criteria (no tendency to competition). In order to claim that there is a tendency to competition it needs to be shown that over the course of the market review period (in the next three to four years) the market will tend to a competitive outcome.

143. For the reasons set out in the CD and in this document the Authority does not believe that this is the case, and hence it believes that the second criteria of the TCT is not passed. In the market, Ooredoo still retains a very high market share around [--%].

144. The Authority disagrees with the contention of Ooredoo that "*there is no a priori reason why Vodafone should find it more difficult to penetrate business market than the residential market.*"[10]

144.1 In particular, there is an expectation that business customers in Qatar will be demanding converged mobile and fixed telecoms services. Vodafone has not deployed its own fixed network infrastructure and is unlikely to do so in the time period relevant to this MDDD, given the high barriers to it doing so. In these circumstances, the lack of a any-to-any wholesale transmission offer is likely to be an impediment to Vodafone expanding in the mobile business market going forward.

144.2 Furthermore, given that Ooredoo maintains a very strong position in the fixed market, it is possible that on a prospective basis, it could use this to leverage its position in the related business mobile market.

145. The Authority considers that absent compelling evidence to the contrary a market share which is consistently over 60% is evidence of market power. While evidence on average revenue per subscriber suggests that Ooredoo moderated its prices in response to Vodafone's entry in this segment, there is no strong, compelling evidence that on a forward looking basis Ooredoo is prevented from exercising market power.

146. The Authority further does not believe that existing or potential wholesale access remedies are sufficient to lower barriers to entry sufficiently or to lead to a tendency to competition in the foreseeable future in Qatar. In order to believe that such remedies would be effective, it would be necessary to demonstrate that entrants could use these to enter and expand on a sufficient scale to affect prices in the market.

147. For these reasons the Authority concludes that the business national mobile voice and broadband services market does not show a tendency to competition on a forward looking basis, and that the market does not tend to competition at this stage. For this reason it passes the TCT. However, the Authority recognizes that the competitive dynamics in this market may change if the relevant wholesale products offerings required to provide converged service offerings are made available, and it will therefore keep this market under close review during Phase II of this MDDD process.

148. If the Authority finds that the presence of well-functioning wholesale remedies enable rivals to Ooredoo to build market share in the market for business national mobile voice and broadband services, in particular by facilitating the rival's ability to offer converged mobile and fixed packages, the Authority may have cause to revisit its conclusions in this decision.

149. Therefore, the Authority will continue to monitor competition in this market during phase 2 of this MDDD process, and beyond until it is satisfied that the tendency to competition will endure.

[10] Ooredoo response paragraph 5.7.

4.3 Retail international outgoing call services via a mobile device– Residential customers

4.3.1 The Authority's view as expressed in the CD

150. After application of the TCT, the Authority provisionally concluded that the market for the retail supply of international outgoing calls via a mobile device by residential subscribers is not susceptible to ex-ante regulation.

150.1 This is because the strong presence of OTT services in the market suggests barriers to entry are relatively low and that the market is tending towards competition.

150.2 Furthermore, the Authority considers that ex-post regulation is likely to be sufficient as there is already a degree of competition in the market that disciplines market participants and none of the parties rely on others for provision of access services to supply their products.

151. The Authority posed the following question:

Question 16	Do you agree with the Authority's application of the TCT to the market for retail international call services from a residential mobile device and via an OTT service, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.3.2 SP's Responses to the CD

152. ***Qnbn*** has no objection to the Authority's preliminary conclusion that the market for retail international call services from a residential mobile device and via an OTT service is not subject to ex-ante regulation.

153. ***Vodafone*** does not agree with the Authority's preliminary decision. It argues that the Candidate Market meets all TCT criteria and should therefore be susceptible for ex-ante regulation.

153.1 Vodafone gives market share evidence supporting its suggestion that the Candidate Market does, contrary to the Authority's decision, not tend to competition and therefore passes the TCT. As argued in section 4.1.2, Vodafone further notes that general competition policy is not sufficient to regulate the Candidate Market ex-post.

154. ***Ooredoo*** agrees with the Authority's preliminary decision that the Candidate Market is not susceptible for ex-ante regulation. Additionally, Ooredoo argues that, in line with the reasoning in section 3.3.2, there should be a single market for residential and business as well as for both mobile and fixed customers.

4.3.3 The Authority's Comments and Conclusion

155. The Authority first notes the revised market definition of retail international outgoing call services via a mobile device for both residential and business customers. Based on the application of the TCT, the Authority maintains its position that this market is not susceptible to ex-ante regulation.

156. This is because the market appears to be tending towards competition as a result of the presence of a second direct competitor. For instance as noted in section 4.4 of the Consultation, Vodafone's market share for residential mobile international direct dialing was above 40%. Notwithstanding the The Authority does not consider that in

market share necessarily should be taken to be evidence of a longer trend indicating a lack of competition, rather short term variations in market share could imply increased competitive interactions. Furthermore the indirect competitive pressures applied by OTT services have also increased competitive pressures on suppliers in the market. For example, the evidence set out in Section 4.4 of the consultation on the proportion of time that users spend on OTT services, illustrates the constraint that OTT places on operators. The Authority also maintains its view that ex-post regulation is likely to be sufficient and none of the parties rely on others for provision of access services to supply their products.

4.4 Retail international outgoing call services via a mobile device– Business customers

4.4.1 The Authority's view as expressed in the CD

157. After application of the TCT, the Authority provisionally concluded that the market for mobile IDD for business subscribers is not susceptible for ex-ante regulation.

157.1 This is because the assessment of market shares suggests that barriers to entry are sufficiently low for the market to be tending towards competition.

157.2 Furthermore, the Authority considers that ex-post regulation and the application of competition law is likely to be sufficient in this market.

158. The Authority posed the following question:

Question 17 Do you agree with the Authority's application of the TCT to the market for retail international outgoing call services via a mobile device for business customers, and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.4.2 SP's Responses to the CD

159. ***Qnbn*** has no objection to the Authority's preliminary conclusion that the market for retail international call services from a mobile device for business customers is not subject to ex-ante regulation.

160. ***Vodafone*** does not agree with the Authority's preliminary decision and argues that the Candidate Market passes the TCT and is therefore susceptible to ex-ante regulation. This is based on the same reasoning as in sections 4.1.2 and 4.3.2.

161. ***Ooredoo*** agrees with the Authority's preliminary conclusion that the Candidate Market is not susceptible for ex-ante regulation.

4.4.3 The Authority's Comments and Conclusion

162. The Authority rejects Vodafone's claim that its declining market share of prepay international services is evidence that the market for international calling from a mobile device for business customers is not showing a tendency to competition. This is because, first, Vodafone has not presented evidence of the specific market in question (to business customers). Second the evidence on share (down from [--]% to [--]% in the last six months) does not imply the market is uncompetitive. On the

contrary, Vodafone still has a relatively large market share (based on the metric it provided) which has only dipped below [--]% in Q4 2014.

163. For the reasons set out in paragraph 146 the Authority does not believe that existing or potential wholesale access remedies are sufficient to lower barriers to entry sufficiently or to lead to a tendency to competition in the foreseeable future in Qatar.

164. For the reasons set out in section 4.1.3 the Authority rejects the argument put forward by Vodafone that ex-post competition law is insufficient to assess markets.

165. For these reasons, the Authority concludes that the market for international calling from a mobile device for business customers passes the TCT and is susceptible to ex ante regulation.

4.5 Retail international outgoing call services at a fixed location for residential customers

4.5.1 The Authority's view as expressed in the CD

166. After application of the TCT, the Authority provisionally concluded that the market for retail international outgoing call services at a fixed location and via an OTT service for residential customers is susceptible to ex-ante regulation.

166.1 This is because, despite a degree of migration from residential fixed IDD to OTT services, very high barriers to entry in the fixed segment of the market constrain competition, as demonstrated by revenues per minute earned by existing service providers not declining significantly – as might be expected if the market was tending to competition.

166.2 Furthermore, competition law may not be sufficient in this market due to the absence of a second strong direct competitor, as any potential entrant could have to rely on wholesale services from Ooredoo as inputs in order to enter the market, thus giving Ooredoo the potential opportunity to unduly limit reasonable access to those wholesale services.

167. The Authority posed the following question:

Question 18 Do you agree with the Authority's application of the TCT to the market for retail international outgoing call services at a fixed location and via an OTT service for residential customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.5.2 SP's Responses to the CD

168. ***Qnbn*** agrees with the Authority's preliminary conclusion that the market for retail international outgoing call services at a fixed location and via an OTT service for residential customers is susceptible to ex-ante regulation.

169. ***Vodafone*** agrees with the Authority's preliminary conclusion. However, it argues that OTT services should not be included in the analysis. This is motivated by the reasoning presented in section 3.1.2.

170. ***Ooredoo*** does not agree with the Authority's preliminary conclusion that the Candidate Market is susceptible to ex-ante regulation. It argues that the market for IDD outgoing call services should be defined jointly for fixed and mobile customers

and for business and residential clients. Ooredoo further states that the Candidate Market has a tendency to competition and as such fails the second criterion of the TCT.

170.1 Ooredoo states that the Authority has failed to provide sufficient burden of proof for its preliminary decision. The SP notes that the lack of information as stated by the Authority implies that there is only limited proof justifying ex-ante regulation.

170.2 Furthermore, Ooredoo states that OTT services already exert competitive constraints on established service providers and expects significant further entry in the future. According to Ooredoo, the Candidate Market therefore tends towards competition.

170.3 Finally, Ooredoo asked the Authority to clarify its assessment in section 4.6.1.2 in the CD, which is supposed to be assessing the market for residential customers but, in the opening sentence, refers to business customers.

4.5.3 The Authority's Comments and Conclusion

171. The Authority first notes the revised market definition of retail international outgoing call services at a fixed location for both residential and business customers. Based on the application of the TCT, the Authority concludes that this market is susceptible to ex-ante regulation.

172. While the Authority acknowledges Ooredoo's comments on indirect competitive pressure applied by OTT services on fixed IDD services, the absence of a direct competitor in this market indicates that there is not a tendency towards competition.

173. The Authority also confirms that it intends to refer to retail customers in section 4.6.1.2 of the CD.

174. For the reasons set out in section 3.3.3 the Authority concludes that the market for fixed international dialing is distinct from the market for international dialing from a mobile device.

175. For the reasons set out in paragraph 146 the Authority does not believe that existing or potential wholesale access remedies are sufficient to lower barriers to entry sufficiently or to lead to a tendency to competition in the foreseeable future in fixed markets in Qatar.

176. Therefore, the Authority concludes that the market for retail international outgoing call services at a fixed location for residential customers does pass the TCT and is susceptible to ex ante regulation.

4.6 Retail international outgoing call services at a fixed location for business customers

4.6.1 The Authority's view as expressed in the CD

177. After application of the TCT, the Authority provisionally concluded that the market for retail international outgoing call services at a fixed location for business customers is susceptible for ex-ante regulation.

177.1 This is because there are very high and non-transitory barriers to entry, there is no tendency to competition with a stable and significant imbalance in market shares and because, therefore, competition law is not sufficient to deal with anti-competitive conduct in this market.

178. The Authority posed the following question:

Question 19 Do you agree with the Authority's application of the TCT to the market for retail international outgoing call services at a fixed location for business customers, and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

4.6.2 SP's Responses to the CD

179. ***Qnbn*** agrees with the Authority's preliminary conclusion that the market for retail international outgoing call services at a fixed location for business customers is susceptible to ex-ante regulation.

180. ***Vodafone*** agrees with the Authority's preliminary conclusion.

181. ***Ooredoo*** does not agree with the Authority's preliminary conclusion that the Candidate Market is susceptible to ex-ante regulation. It argues that the market for IDD outgoing call services should be defined jointly for fixed and mobile customers and for business and residential clients. Further, the SP states that it believes the market to be tending to competition following the reasoning from

181.1 Ooredoo additionally notes that it has been forced to implement an IP Based unified communication platform to address the competition from ICT service providers.

4.6.3 The Authority's Comments and Conclusion

182. The Authority addresses the susceptibility to ex ante regulation of the revised market definition in section 4.5.3.

183. For the reasons set out above (section 3.3.3) and in the CD, the Authority disagrees with the assertion of Ooredoo that the market for international outgoing call services at a fixed location for business customers includes mobile customers and OTT services.

184. For the reasons set out in paragraph 146 the Authority does not believe that existing or potential wholesale access remedies are sufficient to lower barriers to entry sufficiently or to lead to a tendency to competition in the foreseeable future infixed markets in Qatar.

185. Therefore, the Authority's preliminary view that the international outgoing call services market at a fixed location for business customers is susceptible to regulation remains unchanged. As such, it concludes that this market passes the TCT and is susceptible to ex ante regulation.

5 Summary conclusions and final decision

186. Having given due regard to the consultation responses received and further deliberations on the matters under consideration, the Authority has reached a final decision on the amendments to the MDDD methodology, the list of Candidate Markets to be considered in this MDDD update, and the need for ex-ante regulation in the Candidate Markets reviewed to date.

Amendments to the MDDD methodology

187. The Authority sees no need for further changes to the amended MDDD methodology as set out in the CD. As such, from this MDDD update onwards, the Market Definition process will be based on the following two steps:

- Candidate Markets are defined based on the previous MDDD and latest market developments
- Relevant Markets for ex-ante regulation are identified, based on the TCT.

188. Only Relevant Markets are then considered further in the Market Analysis and Dominance Assessment Stage of the MDDD.

189. The revised four step MDDD approach is set out below.

Candidate Markets

190. The table below summarises the final list of Candidate Markets to be considered in this MDDD update.

Table 1. 2011 MDDD markets and new Candidate Markets for 2015 MDDD update.

2011 MDDD	Final Candidate Market 2015[11]	Key change
Retail services		
M1 - Access to public telecommunications networks at a fixed location M2 - Public national telecommunications services at a fixed location	Retail national fixed voice and broadband services	Single product market for fixed access, national calls and fixed broadband services
M3 - Public international telecommunications services at a fixed location and via a mobile device	Retail international outgoing call services at a fixed location – Residential customers Retail international outgoing call services at a fixed location – Business customers Retail international outgoing call services via a mobile device – Residential customers Retail international outgoing call services via a mobile device – Business customers	Separate product markets for calls originating at a fixed location and from a mobile device Each product market is further separated into a market for residential and business customer
M4 - Broadband services at a fixed location	Retail national fixed voice and broadband services	Considered as part of the single product market for fixed voice and broadband services
M5 - Retail leased lines services	Retail national leased lines services Retail international leased lines services	Separate product markets for national and international leased lines
M6 - Public national telecommunications services via a mobile device M7 - Broadband services via a mobile device	Retail national mobile voice and broadband services – Residential customers Retail national mobile voice and broadband services – Business customers	Single product market for mobile voice and broadband services Separate markets for residential and business customers
Wholesale services		
M8 - Origination on public telecommunications networks at a fixed location	Wholesale call origination on public telecommunications networks at a fixed location	No change
M9 - Termination on public telecommunications networks at a fixed location	Wholesale call termination on individual telecommunications networks at a fixed location	No change
M10 - Wholesale physical network infrastructure access	Physical access to network infrastructure	New sub-markets: • Physical access to mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • Physical access to access network dark fibre, ducts, relevant ancillary facilities/services and collocation space • Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).
M11 - Wholesale access to broadband services at fixed locations	Wholesale broadband access at a fixed location	No change, but refined demarcation[12]

[11] All proposed Candidate Markets are national in scope. This is in line with the geographic market definitions under the 2011 MDDD.
[12] This Candidate Market covers active access services from the customer premise to the Ethernet switch, OLT or alternative PoP.

M12 - Wholesale leased lines	National trunk segment of (national and international) wholesale leased lines services	Separate product markets for terminating, trunk and international transit segments of leased line services
	Terminating segment of (national and international) wholesale leased lines services	
	International transit segment of international wholesale leased lines services	
M13 - Access and origination on public mobile networks	Wholesale access and origination on public mobile networks	No change
M14 - Termination on public mobile networks	Wholesale termination on individual mobile networks	No change

Need for ex-ante regulation in Candidate Markets with competing infrastructure

191. The Authority determines the following Candidate Markets not to be susceptible to ex-ante regulation:
    - The market for retail national mobile voice and broadband services for residential customers; and
    - The market for retail international outgoing international call services via a mobile device for residential customers.
    - The market for retail international outgoing international call services via a mobile device for business customers.

192. The Authority will keep the market for retail national mobile voice and broadband services for residential customers under review (during phase 2 and beyond) since it has only recently shown a tendency to competition. If the market conditions change, it may revisit its decision.

193. The market for retail national mobile voice and broadband services for business customers currently passes the TCT and is susceptible to ex ante competition. In that market despite the fact that Vodafone has successfully entered, its market share does not currently suggest a tendency to competition. However, if sufficient, well-functioning wholesale remedies are available then entrants may be better able to compete in the segment of the market for large corporate customers who value converged fixed and mobile packages. In such circumstances, the Authority may revisit its analysis to determine whether there is a tendency to competition which might in turn suggest the market is susceptible to ex ante regulation. For these reasons the Authority will keep the retail national mobile voice and broadband services for business customers under review (during phase 2 and beyond).

194. All remaining Candidate Markets will be assessed in more detail as part of Phase II of the MDDD update.

195. Given the Authority will continue to monitor the competitive dynamics in the Candidate Markets, it will continue to require information and data from the market participants across all Candidate Markets. This will include the assessment of methodologies used to allocate costs between the different products and markets.

Market Definition and Dominance Designation in Qatar

Dominance assessment in Relevant Markets (Phase II)

Consultation Document

For Response by 3rd March 2016

CRARAC 1/02/16 Non-Confidential

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1 Introduction

In line with the requirements under the Telecommunications Law and international best practice, the Communications Regulatory Authority (the Authority, hereafter)[1] regularly reviews the competitive dynamics in the telecommunications sector in order to determine the need for (ex-ante) regulatory intervention. This is referred to as the Market Definition and Dominance Designation (**MDDD**) process. Indeed, it is important that the Authority regularly updates the MDDD to ensure that any resulting regulation remains up-to-date and in line with the underlying market dynamics.

Following previous MDDDs in 2008[2] and 2011[3], the Authority is currently conducting the next **MDDD update**.

The key market developments since 2011 and the resulting need for this update is motivated, amongst other factors, by the following:

- At the time of the 2011 MDDD, both Vodafone and QNBN had only recently entered the Qatari telecommunications market as national service providers (NSP). Since then, the sector has been characterised by the growth of two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar. Given this, the Authority considers it important to assess the resulting impact on the competitive dynamics in the sector;
- Competition for fixed services has not developed significantly so far and Ooredoo remains the only NSP on a national scale; and
- Vodafone remains reliant on Ooredoo and QNBN for certain wholesale services.

Amendments to the 2011 MDDD methodology[4]

In 2014, the Authority issued a Policy Statement (**2014 Policy Statement)** in which the Authority set out its overall approach to regulation of the sector going forward.[5] This, amongst others, stated the Authority's focus should be on regulating wholesale markets and prevailing bottlenecks.

As such, in preparation for this MDDD update, the Authority has reviewed its **MDDD methodology.**[6] This review was based on the obligation recognized by Article 72 of the Executive By-Law 1 of 2009 (**Executive By-Law**) requiring the CRA to establish the standards and methodology to be applied in determining SMP status in a relevant market. This has led to the inclusion of a Three Criteria Test (TCT), a commonly applied test to assess the need for ex-ante regulation in a particular service market, based on whether that market exhibits three specific characteristics - i.e.:

---

[1] Note: The Authority has been established as an independent regulatory authority as of April 1st, 2014. It takes over the responsibilities of the former Regulatory Authority within the Supreme Council for Information and Communication Technology (ictQATAR). Thus, for consistency, we use the term "The Authority" in this document although in some of the referenced documents the term ictQATAR may still be used.

[2] http://www.cra.gov.qa/en/document-type/consultations?page=1

[3] http://www.cra.gov.qa/en/document-type/consultations?page=1

[4] http://www.cra.gov.qa/en/document-type/consultations?page=1

[5] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

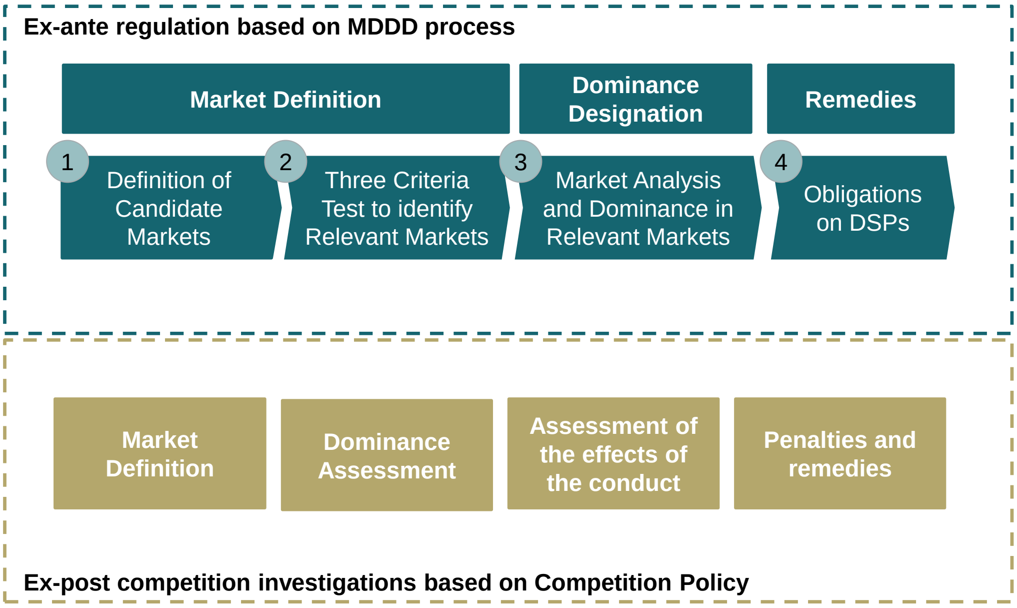
[6] http://cra.gov.qa/sites/default/files/MDDD%20Methodology%20Notice_0.pdf

- that it has high and non-transitory barriers to entry;
- that it does not tend to effective competition; and
- that competition law would be insufficient to address competitive concerns.

In parallel, the Authority has developed and consulted on a **Competition Policy**[7], setting out, amongst others, the approach it will take to examining allegations of anti-competitive behaviour by NSPs. This Policy forms the basis for any ex-post competition investigation that the Authority will undertake in future.

The following figure provides an overview of the key steps with the MDDD process. For comparison, it also shows how these are broadly similar to the steps that would be undertaken in an ex-post competition investigation.

Figure **1**. Key steps within the MDDD process and an ex-post competition investigation



MDDD update – Process overview

The current MDDD[8] update is being conducted in two phases:

- **Phase I (finalized)**
  During this phase; the Authority confirmed its proposed changes to the MDDD methodology and developed a list of Candidate Markets to review during the MDDD update. It further applied the TCT to those Candidate Markets which are characterised by competing infrastructure or other pro-competitive characteristics (such as, competitive pressure from Over-the-Top (**OTT**) consumer offerings). The preliminary results from the Phase I activities were subject to a public consultation in May 2015 (CRA 2015/05/12NC). This was followed by a Final Decision in July 2015 (CRA 2015/RAC/09) which finalised the list of Candidate Markets.

[7] http://cra.gov.qa/en/document/documents-related-cras-competition-framework

[8] This exercise follows a consultation in June 2014 on Market Definition - Review of the List of the Relevant markets (CRA 2014/06/025) and a consultation in November 2014 on Review of List of Relevant Markets/MDDD methodology Review (CRA RAC-14-153)

- **Phase II (on going – this current consultation)**
  As part of this second phase, the Authority has now applied the TCT to the remaining Candidate Markets. To the extent that markets meet the TCT, the Authority has then assessed competition in each Relevant Market, with a view to identifying any Dominant Service Providers (DSPs), and determining the regulatory remedies for DSPs. The preliminary results from Phase II activities are set out in this consultation document.

Going forward, the Authority will initiate the next MDDD update by the end of 2018 or when the market circumstances have changed significantly to require an update to the current MDDD.

Phase I Final findings

Candidate Markets

Having reviewed the market definitions underlying the 2011 MDDD and relevant market developments, the Authority concluded that there is a need to amend some of the markets defined in the 2011 MDDD to better reflect the current dynamics in the sector. In particular, the 2015 MDDD Candidate Markets include:

- Sub-markets for Retail fixed access, national calls and fixed broadband services within a wider Candidate Market for retail national fixed voice and broadband services;
- Separate product markets for international calls originating at a fixed location and from a mobile device;
- A retail product market which includes both mobile voice and mobile broadband services for each of residential and business consumers;
- Separate product markets for national and international retail leased lines and separate product markets for the terminating, trunk and international transit segments of wholesale leased line services; and
- More refined wholesale markets for physical access to network infrastructure and wholesale broadband access at a fixed location.

For all Candidate Markets, the Authority concluded that there is a single geographic market in Qatar.

As a result, the following Candidate Markets were defined in Phase I:

Table 1. Candidate Markets for the 2015 MDDD (end of Phase I)

Retail services
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services
M2 - Retail international outgoing call services • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c - Retail international outgoing call services via a mobile device – Residential customers • M2d - Retail international outgoing call services via a mobile device – Business customers
M3 - Retail national leased lines services
M4 - Retail international leased lines services
M5 - Retail national mobile voice and broadband services • M5a - Retail national mobile voice and broadband services – Residential customers • M5b - Retail national mobile voice and broadband services – Business customers
Wholesale services
M6 - Wholesale call origination on public telecommunications networks at a fixed location
M7 - Wholesale termination on individual telecommunications networks at a fixed location
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's ducts, including relevant ancillary facilities/services and collocation space • M8d - Physical and functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, physical and functional access to cross-connects and other relevant ancillary facilities and/or services).
M9 - Wholesale broadband access at a fixed location
M10 - National trunk segment of (national and international) wholesale leased lines services
M11 - Terminating segment of (national and international) wholesale leased lines services
M12 - International transit segment of international wholesale leased lines services
M13 - Wholesale access and origination on public mobile networks
M14 - Wholesale termination on individual mobile networks

The wholesale Candidate Markets defined in the MDDD provide the essential "building blocks" which NSPs in the retail Candidate Markets use to provide services. As such, it is essential, for the future development of effective competition, that retail services can all be "constructed" from services included within the defined wholesale Candidate Markets. The diagram below demonstrates this possibility, by mapping the Candidate Markets for retail service markets considered within the 2015 MDDD to the relevant Candidate Markets for wholesale services. A tabular representation of this mapping is presented in Annex II; Preliminary Mapping of services to Markets.

Figure **2**. Mapping of retail service markets to and wholesale service markets

Retail	Wholesale											
	Passive infrastructure access markets				Active wholesale service markets							
	M8a Towers	M8b Dark fiber	M8c Ducts	M8d IGF	M6 Fixed Origination	M7 Fixed Term	M9 WBA	M10 LL Trunk	M11 LL Term.	M12 Itl. segment	M13 Mobile Access & Origination	M14 Mobile Termination
M1a Fixed Access	✓	✓	✓				✓	✓	✓			
M1b Fixed National Calls	✓	✓	✓		✓	✓	✓	✓	✓			✓
M1c Fixed Broadband	✓	✓	✓	✓			✓	✓	✓	✓		
M2a/b Fixed IDD	✓	✓	✓	✓	✓		✓	✓	✓	✓		
M3 National Leased Lines	✓	✓	✓					✓	✓			
M4 International Leased Lines	✓	✓	✓	✓				✓	✓	✓		
M2c/d Mob IDD	✓	✓	✓	✓				✓	✓	✓	✓	
M5a/b Mobile national voice & Broadband	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓

Review of Candidate Sub-Markets with competing infrastructure

In Phase I of the 2015 MDDD, the Authority reviewed certain Candidate Markets to determine whether they pass the TCT, and are therefore susceptible to ex-ante regulation. In doing so, it focused on the markets which are most likely to not be susceptible to ex-ante regulation. These were identified to be those markets where there are competing infrastructures.[9].

This resulted in the Authority making the following determinations:

[9] The market for retail international outgoing call services was included in Phase I of this MDDD update as the previous MDDD contained a single market for retail international outgoing call services, including fixed and mobile call services.

Table 2. Key conclusions on the review of Candidate Sub-Markets assessed during Phase I

Candidate Sub-Market	Final Determination
M2a - Retail international outgoing call services at a fixed location – Residential customers	Susceptible to ex-ante regulation.
M2b - Retail international outgoing call services at a fixed location – Business customers	
M2c - Retail international outgoing call services via a mobile device – Residential customers	Not susceptible to ex-ante regulation.
M2d - Retail international outgoing call services via a mobile device – Business customers	
M5a - Retail national mobile voice and broadband services – Residential customers	Not susceptible to ex-ante regulation. However, if evidence (such as data on market shares) suggests that the market no longer has a tendency to competition, the Authority may revisit its decision. Therefore the Authority will continue to closely monitor this market (including during Phase II of this MDDD process, and beyond) and examine evidence on the degree of competition observed in it.
M5b - Retail national mobile voice and broadband services – Business customers	Likely to be susceptible to ex-ante regulation. Likely to be the case at least until a well-functioning ex-ante remedy is introduced to enable competitors to Ooredoo to effectively and successfully compete in the segment of this market which is characterized by converged fixed and mobile packages. Once such a product is available, the Authority recognizes that this market may tend to effective competition and so not be susceptible to ex-ante regulation. As such, the Authority may revisit its decision at such a time.

Preliminary findings on Phase II activities of the MDDD update

Having concluded its preliminary analysis of the Phase II activities, as set out in this Consultation Document, the Authority now wishes to consult on its preliminary findings on the remaining Candidate Markets (i.e. those without competing infrastructure), its dominance assessment in each Relevant Market and the required ex-ante regulation that should be imposed on DSPs in each Relevant Market. The key findings from this assessment are summarised in the table below, which sets out for all Candidate Markets considered in this MDDD, whether they are considered to be a Relevant Market (i.e., whether they are susceptible to ex-ante regulation) and if so, any dominance designation within these markets.

Table 3. Preliminary assessment of retail and wholesale related Candidate Markets (Phase II)

Market Definition **Candidate Market**	**Relevant Market**	**Dominance Designation**
Retail service markets		
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services	Yes all three Sub Markets.	Ooredoo
M2 - Retail international fixed outgoing call services[10] • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c - Retail international outgoing call services from a mobile device – Residential customers • M2d - Retail international outgoing call services from a mobile device – Business customers	Yes M2a and M2b only.	Ooredoo in M2a and M2b
M3 – Retail national leased lines services	Yes.	Ooredoo
M4 – Retail international leased lines services	Yes.	Ooredoo
M5 – Retail national mobile voice and broadband services • M5a – Retail national mobile voice and broadband services – Residential customers • M5b – Retail national mobile voice and broadband services – Business customers	No.	(n/a)
Wholesale service markets		
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Yes.	Ooredoo
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Yes.	Ooredoo, Vodafone
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space	Yes (M8b, M8c and M8d only).	Ooredoo in M8b, M8c and M8d

[10] As part of Phase I of this MDDD update, the Authority already concluded that the markets for retail international outgoing call services via a mobile device for residential customers (M2c) and business customers (M2d) are not susceptible to ex-ante regulation.

Market Definition Candidate Market	Relevant Market	Dominance Designation
• M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).		
M9 - Wholesale broadband access at a fixed location	Yes.	Ooredoo
M10 - National trunk segment of (national and international) wholesale leased lines services	Yes.	Ooredoo
M11 - Terminating segment of (national and international) wholesale leased lines services	Yes.	Ooredoo
M12 - International transit segment of international wholesale leased lines services	No.	(n/a)
M13 - Wholesale access and origination on public mobile networks	No.	(n/a)
M14 - Wholesale termination on individual mobile networks	Yes.	Ooredoo, Vodafone

These wholesale and retail markets include all ancillary services that are provided as an adjunct to or in support of these services, including but not limited to mediation hooks, access to OSS/BSS, number translation systems, databases, relevant network and planning information, collocation space, access to facilities, etc.

Next steps after this consultation

Once this consultation has concluded, the Authority will publish:

1) A Regulation that sets out the Authority's market analysis and dominance assessment in each Relevant Market and any resulting ex-ante regulatory remedies, which may include reporting requirements for DSPs and Non-DSPs in each of the markets considered.
2) A Response Document, setting out the Authority's reasoning for its decision on the new list of Relevant Markets and regulatory remedies.

2 Consultation

2.1 Consultation questions

As part of this consultation process, the Authority is seeking feedback on its preliminary views as presented in this document. This covers the assessment of the Candidate Markets not fully reviewed as part of Phase I and the Authority's dominance assessment in all the resulting Relevant Markets. In particular, stakeholders are requested to respond to the following consultation questions.

Assessment of retail service related Candidate Markets

1. Do you agree with the Authority's application of the TCT to the markets for retail national fixed voice and broadband services (M1a, M1b and M1c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
2. Do you agree with the Authority's preliminary findings of its dominance assessment in the Sub Markets for retail national fixed voice and broadband services (M1a, M1b and M1c), and its preliminary conclusion that Ooredoo remains a DSP in these Sub Markets? Please explain your answer and provide any evidence supporting your response.
3. Do you agree with the Authority's preliminary findings of its dominance assessment in the Sub Markets for retail international outgoing call services from a fixed location (M2a and M2b), and its preliminary conclusion that Ooredoo remains a DSP in these Sub Market? Please explain your answer and provide any evidence supporting your response.
4. Do you agree with the Authority's application of the TCT to markets for retail national leased lines services (M3), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
5. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail national leased lines services (M3), and its preliminary conclusion that that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.
6. Do you agree with the Authority's application of the TCT to markets for retail international leased lines services (M4), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
7. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail international leased lines services (M4), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.
8. Do you agree with the Authority's findings that the markets for retail national mobile voice and broadband services (M5a and M5b) are not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Assessment of wholesale service related Candidate Markets

9. Do you agree with the Authority's application of the TCT to markets for wholesale call origination on public telecommunications networks at a fixed location (M6), and its

preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

10. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale call origination on public telecommunications networks at a fixed location (M6), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.
11. Do you agree with the Authority's application of the TCT to markets for wholesale termination on individual telecommunications networks at a fixed location (M7), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
12. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual telecommunications networks at a fixed location (M7), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in termination on their own networks? Please explain your answer and provide any evidence supporting your response.
13. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space (M8a), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
14. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
15. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.
16. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
17. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.
18. Do you agree with the Authority's application of the TCT to markets for access to international gateway facilities required to gain international connectivity (M8d), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
19. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for access to international gateway facilities required to gain international connectivity (M8d), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.
20. Do you agree with the Authority's application of the TCT to markets for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that the

market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

21. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response.
22. Do you agree with the Authority's application of the TCT to markets for national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
23. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.
24. Do you agree with the Authority's application of the TCT to markets for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
25. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response.
26. Do you agree with the Authority's application of the TCT to markets for the international transit segment of international wholesale leased lines services (M12), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
27. Do you agree with the Authority's application of the TCT to markets for the wholesale access and origination on public mobile networks (M13), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
28. Do you agree with the Authority's application of the TCT to markets for the wholesale termination on individual mobile networks (M14), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.
29. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual mobile networks (M14), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in this market? Please explain your answer and provide any evidence supporting your response.

Proposed remedies on DSPs

30. Do you agree with the Authority's proposed remedies on DSPs in each market? Please explain your answer and provide any evidence supporting your response.

Mapping of Ooredoo's 2014 RAS services

31. Do you agree with the mapping of Ooredoo's 2014 RAS services to the MDDD Candidate Markets?

3 Instructions for Responding to this Consultation

3.1 Consultation Procedures

In keeping with open and transparent regulatory processes, the CRA herewith consults on the Market Definition and Dominance Designation Dominance assessment in Relevant Markets.

SPs are invited to provide their views and comments on the consultation questions.

The CRA asks that, to the extent possible, submissions be supported by relevant evidence. Any submissions received in response to this Consultation Document (CD) will be carefully considered by the CRA. Nothing included in this CD is final or binding. However, the CRA is under no obligation to adopt or implement any comments or proposals submitted.

Comments should be submitted by email to raconsultation@cra.gov.qa before the date stated on the front cover. The subject reference in the email should be stated as Consultation on "Market Definition and Dominance Designation". It is not necessary to provide a hard copy in addition to the soft copy sent by email.

3.2 Publication of comments

In the interests of transparency and public accountability, the CRA intends to publish the submissions to this consultation on its website at www.cra.qa. All submissions will be processed and treated as non-confidential unless confidential treatment of all or parts of a response has been requested.

In order to claim confidentiality for information in submissions that stakeholders regard as business secrets or otherwise confidential, stakeholders must provide a non-confidential version of such documents in which the information considered confidential is blacked out. This "blackened out" portion/s should be contained in square brackets. From the non-confidential version it has to be clear where information has been deleted. To understand where redactions have been made, stakeholders must add indications such as "business secret", "confidential" or "confidential information".

A comprehensive justification must be provided for each and every part of the submission required to be treated as confidential. Furthermore, confidentiality cannot be claimed for the entire or whole sections of the document as it is normally possible to protect confidential information with limited redactions.

While the Authority will endeavor to respect the wishes of respondents, in all instances the decision to publish responses in full, in part or not at all remains at the sole discretion of the CRA. By making submissions to the Authority in this consultation, respondents will be deemed to have waived all copyright that may apply to intellectual property contained therein.

For more clarification concerning the consultation process, please contact John Kearney (jkearney@cra.gov.qa).

4 Overview of the remainder of this document

In the remainder of this document, the Authority presents:

- the preliminary conclusions from its assessment of those Candidate Markets which were not assessed as part of Phase I of this MDDD update, and the resulting list of Relevant Markets;

- its preliminary conclusions of the market analysis and dominance assessment in each Relevant Market; and
- the ex-ante regulatory remedies it proposes to impose in order to address any dominance findings in given markets.

For the purpose of this document, where a Relevant Market passes the TCT (i.e. is susceptible to ex-ante regulation); the Authority jointly presents, for each market, the first and second steps of the analysis (i.e., the TCT and the competition assessment). The Authority recognises that these are separate, distinctive and sequential analysis steps within the overall MDDD process. However, as both rely on similar evidence, the Authority considers its structure represents the most efficient way to present its analysis.

Given this, the remainder of this consultation is structured as follows;

- Section 5: Approach provides a brief overview of the Authority's approach to identifying the Relevant Markets and the conducting competition assessment in each Relevant Market;
- Chapter 6: Markets presents the Authority's preliminary conclusions on the TCT and, where relevant, its market analysis and dominance assessment of the remaining Relevant Markets for retail services;
- Section 7: Assessment of wholesale service related Candidate Markets sets out the Authority's preliminary conclusions on the TCT and, where relevant, its market analysis and dominance assessment of the remaining Relevant Markets, for wholesale services; and
- Section 8: Ex-ante regulatory remedies sets out the ex-ante regulatory remedies the Authority proposes to impose in order to address any dominance findings identified in Sections 3 and 4.
- Annex I contains a glossary of key acronyms and abbreviations used within this document.
- Annex II provides an overview of the services included in each MDDD Candidate Market and a mapping of Ooredoo's 2014 RAS services to MDDD Candidate Markets.

5 Approach

In preparation for this MDDD update, the Authority has reviewed the approach it takes in its MDDD exercises. Following this review, the Authority amended its approach to include a Three Criteria Test (TCT) in determining which Candidate Markets are susceptible to ex ante regulation and so should be classified as Relevant Markets. This is shown as Step 2 in the graph below).

Figure **3**. Overview of the methodology used for the 2015 MDDD update

5.1 Identification of Candidate Markets

As part of Phase I of this MDDD update, the Authority has defined all Candidate Markets (i.e. Step 1 of the revised MDDD methodology set out above). These Candidate Markets cover all service and geographic markets, regardless of whether they are subsequently classified as Relevant Markets.

5.2 Identification of Relevant Markets

Each of the Candidate Markets is then subject to the TCT, a commonly applied test to assess whether that market should be classified as a Relevant Market susceptible to ex-ante regulation. This test allows the Authority to focus ex-ante regulation on the markets where it is necessary, by identifying upstream bottlenecks, and avoids ex-ante regulation where competition is possible, and ex-post regulation could be sufficient

In order to be a Relevant Market, each Candidate Market must exhibit the following three characteristics:

1) the presence of high and non-transitory barriers to entry;
2) a market structure which does not tend towards effective competition within the relevant time horizon; and
3) the insufficiency of competition law alone to adequately address the market failure(s) concerned.

In applying the TCT, the Authority will consider the evidence on each criterion and on balance across all three criteria, whether the market is susceptible to ex-ante regulation. Each of the three criteria is assessed separately and they have to all be met for the Candidate Market to pass the test. A Candidate Market which passes the test then becomes a Relevant Market, with all Relevant Markets being considered in the Market Review and Dominance assessment, and assuming dominance is found, the remedy design stages of the MDDD. All remaining Candidate Markets are not considered further in the current MDDD process.

The three criteria in more detail

Below, each of the three criteria underlying the TCT is discussed in more detail.

Criterion 1: High and non-transitory barriers to entry

The first criterion measures how easy it is for competitors to enter the market and/or for existing providers to expand their offerings. Barriers to entry are usually assessed through a modified Greenfield approach, meaning that they are assessed under a hypothetical scenario in which no ex-ante regulation is already in place. Indicators include:

- the existence of sunk costs, such as those incurred building a telecommunications network;
- the control of infrastructure that is not easily duplicated, for example because it is not economically profitable to replicate an incumbent's network or because there are other barriers such as licencing restrictions, administrative authorisation, regulatory or licencing limits and conditions attached to the use of spectrum, or specific regulation on new entrants;
- an existing SP having technological advantages or superiority;
- easy or privileged access to capital or financial resources;
- economies of scale, economies of scope which create significant barriers to entry;
- vertical integration where a vertically integrated supplier controls an important upstream input;
- barriers to develop the distribution and sales network; and
- products or services diversification.

Criterion 2: No tendency towards effective competition

The second criterion measures whether the market under consideration would tend towards effective competition, again, without regulation being in place. Indicators include:

- current and historic market shares;
- price trends and pricing behaviour;
- whether any NSP is able to control bottleneck infrastructure;
- the degree of diversification in the range of products or services offered;
- barriers to expansion (e.g. access to spectrum or backhaul); and
- the potential for further entry.

Criterion 3: Insufficient competition law

The third criterion measures whether existing (ex-post) competition law is sufficient to address any potential anti-competitive practice in the market under consideration. Indicators include:

- the degree of generalisation of anti-competitive behaviour (in terms of whether anti-competitive behaviour is likely to be frequent);
- how difficult it may be to use competition law to address anti-competitive behaviour;

- whether anti-competitive behaviour brings about irreparable damage in related or connected markets; and
- the need for regulatory intervention to ensure the development of effective competition in the long run (such as wholesale remedies).

Those Candidate Markets which fail the TCT (i.e. which are not susceptible to ex-ante regulation) will not be considered further in the MDDD process. All remaining Candidate Markets will be subject to the Market Analysis and Dominance assessment stage, discussed further below.

5.3 Market Analysis and Dominance assessment

In determining whether one or more SPs have a dominant position in a Relevant Market, the Authority analyses the extent to which a NSP, acting alone or jointly with others, is in a position to behave to an appreciable extent independently of customers or competitors. This is international best practice for determining whether market power exists in a particular (product or service) Relevant Market and whether a NSP is enjoying a Dominant Position (or having Significant Market Power) in this Relevant Market.

In order to assess dominance, it is necessary to determine the extent of market power in the Relevant Markets by evaluating the circumstances prevailing in the sector, including market information and evidence of past customer and supplier behaviour.

The criteria for the assessment of dominance are set out in the Qatari Telecommunications Law in Chapter 9 and its Executive By-Law in Chapter 8.

Based on the Article 72 of the Executive By-Law, the Authority may consider the following criteria to assess if a NSP is a DSP on the Relevant Market:

- market shares;
- absolute and relative size of a NSP in the Relevant Market;
- its degree of control of facilities and infrastructure that would be uneconomical for another NSP to develop to provide services in the Relevant Market;
- the size of any economies of scope and scale;
- whether any buyers have countervailing buyer power (CBP)[11] in the Relevant Market, including customer churn characteristics;
- structural and strategic barriers to market entry and market expansion; and
- any other factors relevant to evaluating the existence of market power in a particular market.

In general, the Authority primarily relies on revenue data to estimate market shares. Additionally, the number of subscribers, lines, minutes and other relevant indicators may be used to support the evaluation of market share or to analyse the size of the NSP. Based on the Article 72 of the Executive By-Law the Authority may deem, in the absence of evidence to the contrary, that an individual NSP with a share of more than 40 percent of the Relevant Market is a DSP.

[11] Countervailing buyer power (or demand-side bargaining power) refers to the relative strength of the buyer in negotiations with prospective sellers. CBP could limit the ability of providers of retail communications services to engage in monopolistic pricing and hence to behave independently of buyers and ultimately of consumers.

Once a NSP is designated as a DSP in a certain Relevant Market, the NSP is obliged to comply with specific obligations, as set out in the ARF. This is discussed further in Section 4.

6 Assessment of retail service related Candidate Markets

This Section sets out the Authority's preliminary assessment of whether the retail service related Candidate Markets not assessed as part of Phase I of this MDDD update are susceptible to ex-ante regulation. It further presents the preliminary findings of the Authority's market analysis and dominance assessment of all retail service related Relevant Markets (i.e., all retail service related Candidate Markets which are considered susceptible to ex-ante regulation).

6.1 Market for retail national fixed voice and broadband services (M1)

Below, the Authority has considered the market for retail access, national fixed voice and broadband services (M1).

This market contains typically fixed line rental and installation services for residential and business customers; national (on-net and off-net) fixed call services, payphone services and fixed broadband services for residential and business customers. Annex II contains a more detailed list of the services contained in this market.

6.1.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

6.1.1.1 Current market structure

Retail access, national fixed voice and broadband services are currently offered by Ooredoo and Vodafone.

- Ooredoo offers retail access, national fixed voice and broadband services to residential and business customers via its nationwide copper (PSTN) and fibre-optic (NGN) based network.
- Vodafone offers retail access, fixed voice and broadband services to predominantly residential customers at the Pearl, in Barwa City, Barwa Commercial and parts of West Bay. At the Pearl it relies on wholesale broadband access services from Ooredoo (based on a bilaterally negotiated agreement) and in the remaining geographic areas it relies on QNBN's passive infrastructure (i.e., Vodafone has deployed its own active network infrastructure using QNBN's wholesale products).

As such, Ooredoo remains the owner of the only fixed access and core network with national population coverage, used to provide retail access, national fixed voice and broadband services in Qatar.

6.1.1.2 Market shares

The market shares for the overall market for retail access, national fixed voice and fixed broadband services have remained stable since 2011. As **Figure 4** shows, Vodafone's share of total revenues for retail fixed voice and fixed broadband services has been less than ✂ for the whole of the period from 2011 to Q2 2015.

A similar observation can be made for each of the fixed voice and fixed broadband elements of sub-markets within this market. In particular, in the case of retail access and national fixed voice services, Vodafone's share of the market is negligible. In Q2 2015, Ooredoo had a total share of fixed connections in excess of ✂ and close to ✂ of the associated revenues.

Likewise, in the case of broadband services, Vodafone has a small share of this sub-market in terms of total connections (i.e. circa ✂ in Q2 2015).

Figure 4. Revenue market shares – Retail fixed voice and fixed broadband services, Q1 2011 – Q2 2015 ✂

6.1.1.3 Price trends and pricing behaviour[12]

Figure 5 shows Ooredoo's average revenue for access rental services and national voice calls. Ooredoo's average revenues from fixed voice line rental services have been decreasing over the last four years. However, the Authority understands that this is due to a composition effect rather than a reduction in prices[13].

National fixed to fixed (on net) calls are largely free of charge, hence revenue are generated only by fixed to mobile calls.[14] Ooredoo's average revenue per minute for national fixed to mobile calls to its own network has remained fairly constant over time.

Figure 5. Ooredoo's average revenue from national fixed voice services, Q1 2011 – Q2 2015 ✂

Figure 6 shows that Ooredoo's average monthly revenues from fixed broadband subscriptions have increased between 2012 and 2013 while staying almost stable in the 2013-2014 period.

Figure 6. Ooredoo's average monthly fixed broadband revenue per subscription, 2012 – 2014 ✂

6.1.2 Application of the TCT to this Candidate Market

Based on the key relevant market trends and evidence presented above, the Authority has applied the TCT to the market for retail access, national fixed voice and broadband services (including all three sub-markets M1a, M1b and M1c) to consider whether it remains susceptible to ex-ante regulation.

It considers in turn whether:

- the market has high and non-transitory barriers to entry;
- the market has a tendency to competition; and
- competition law is sufficient.

If these conditions are not met, the Authority further considers whether the presence of wholesale remedies would be sufficient to mitigate the high barriers to entry / and or lack of tendency to competition or insufficiency of competition law.

High and non-transitory barriers to entry

[12] Vodafone does not charge line rental for fixed voice services and the available evidence on calls and broadband revenue did not allow for inclusion in this analysis. For these reasons, the section focuses on evidence for Ooredoo only.

[13] Average revenues are based on residential and business customers combined. The number of more profitable business customers has not changed significantly over time, while the number of less profitable residential customers has been increasing. This has driven the reduction in average revenues.

[14] In particular, both Ooredoo and Vodafone offer unmetered local calls as part of their residential fixed line rental product (i.e., Ooredoo offers unmetered calls to other landlines within Qatar and Vodafone unmetered calls to other Vodafone Qatar landlines and mobiles).

The Authority considers that there are high and non-transitory barriers to entry for providers of national fixed voice and broadband services. A market entry is dependent on access to infrastructure or to an effective wholesale regulation enabling service competition. This means that any potential entrant needs to either gain wholesale access to Ooredoo's infrastructure or build a competing network. The high level of costs required to build such a network constitutes a key barrier to entry, in particular considering the sunk costs that Ooredoo has already invested in its ubiquitous fixed network and its existing subscriber base.

The Authority notes that in a limited number of geographic locations, Vodafone provides fixed voice and broadband services (via wholesale services). However, the costs of entering the market and building a new national fixed network are high.

Furthermore, the licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has considered whether the market for retail access, national fixed voice and broadband services has a tendency to competition. In doing so, it has considered market shares, the existence of barriers to expansion, and the potential ability of a NSP to control of infrastructure that is not easily duplicated.

- Market shares. As shown in Section 6.1.1.2 above, Ooredoo has retained a market share in excess of ✂ in the markets for retail access, national fixed voice and broadband services. Whilst Vodafone's share of fixed broadband revenues has increased over time (see **Figure 4** above), the Authority considers it unlikely that, absence any regulatory intervention, this market will tend to competition in the timeframe considered as part of this MDDD update.
- Price trends. There are limited changes in call prices over time, which suggests that Ooredoo may not face strong competitive pressure from OTT and mobile service providers[15].
- Control of bottleneck infrastructure. Ooredoo is in control of the only national fixed access and core network required to provide retail access, national fixed voice and broadband services in Qatar.
- Barriers to expansion. Ooredoo does not face high expansion barriers. Vodafone is dependent on access to Ooredoo's and QNBN's networks, or else they face high costs of building new infrastructure.

Based on the above evidence, the Authority concludes that the market for retail access, national fixed voice and broadband services does not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour in this market.

[15] The Authority notes that whilst both these services do not form part of the Candidate Market (see discussion on the product scope for this market in the relevant Phase I documents), the Authority has considered, as part of the TCT whether these services may still act as an indirect constraint on Ooredoo's pricing behavior in this market.

Given that Ooredoo's dominance is related to its control of the only pervasive national fixed infrastructure, the provision of ex-ante remedies could be used to support the development of competition. However, the design and implementation of such remedies would be lengthy and would not fall within the timespan covered by this analysis.

Wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation

As is set out in the approach to applying the TCT test, which the Authority described in its Phase I consultation and decision, the Authority has also considered whether the retail market would remain susceptible for ex-ante regulation in the presence of relevant wholesale remedies. If the wholesale remedies lowered barriers to entry in the retail market; and / or implied a tendency to competition; and / or meant that competition law was sufficient at the retail level, then this would imply that the market may not be susceptible to ex-ante regulation at the retail level.

The Authority notes that there are already a suite of ex-ante regulations imposed at the wholesale level, including on call origination and termination, interconnection links and physical infrastructure access. While the first two wholesale products have been working, there has been limited use of the physical infrastructure access to replicate the retail access and broadband services in Qatar. This may reflect the fact that entrants using these remedies would still have to incur a degree of sunk costs, and that there are frictions in the provision of services which are supplied as part of the ex-ante regulations.

The Authority therefore considers that there is no evidence that the presence of wholesale ex-ante remedies is sufficient to enable entrants to supply services in the market and achieve a sufficient scale to competitively constrain existing market players. It therefore concludes that wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation.

Conclusion on the TCT

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the market for retail fixed access, national fixed voice and broadband services (including all three sub-markets M1a, M1b and M1c) remains susceptible to ex-ante regulation.

In particular, the market remains characterised by high and non-transitory barriers to entry. In addition, there is high market concentration and limited evidence of competitive pressure on prices. Finally, competition law may not be sufficient in this market as the fixed infrastructure does not face a strong direct competitor, and high market concentration creates risk of excessive pricing behaviour.

Furthermore the Authority finds that the presence of relevant wholesale remedies do not at this stage negate its conclusion that the retail market is susceptible to competition.

Given the above, the Authority preliminarily concludes that the market is susceptible to ex-ante regulation and has conducted a competition assessment of this Relevant Market (including all three sub-markets). The preliminary findings of this assessment are presented below.

6.1.3 Market analysis and Dominance Assessment

The Authority's previous MDDD decision in 2011 found Ooredoo to be dominant in the markets for access, fixed voice and broadband services.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As discussed in Section 6.1.2, the market for access, fixed voice and broadband services is highly concentrated in the hands of Ooredoo.

Control over essential facilities and infrastructures

Ooredoo is in control of the only national fixed access and core network in Qatar, access to which is required for any NSP wishing to provide retail national fixed voice and broadband services throughout Qatar.

In certain geographic areas (i.e., Barwa City, Barwa Commercial and parts of West Bay), NSPs can gain access to QNBN's passive infrastructure (cf. section 6.1.1.1 above). However, QNBN relies on access to physical infrastructures (ducts) of Ooredoo for delivering its wholesale products to NSPs and thus, creating and indirect dependency of NSPs retail fixed voice and broadband provisioning and Ooredoo's fixed access and core network.

Therefore, even in the limited geographic locations where there is some competition, Ooredoo retains control over a significant proportion of the facilities and infrastructures required to provide the services.

Barriers to entry and/or expansion

As stated in section 6.1.2, there are high and non-transitory barriers to entry for providers of access, national fixed voice and broadband services, which constrain competitive tendency in the market. The Authority is not aware of any barriers to expansion for Ooredoo, while Vodafone's expansion is subject to continued and non-discriminatory access to Ooredoo's network. QNBN, which is supplying Vodafone whit passive infrastructure, is also subject to access to Ooredoo physical infrastructure (ducts).

Countervailing Buyer Power

Buyers in this market do not have sufficient countervailing buyer power to curtail the exercise of market power by the dominant operator.

Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo has a dominant position in the market for retail access, national fixed voice and broadband services.

6.2 Market for retail international outgoing call services at a fixed location (M2a and M2b)

Below, the Authority has considered the market for retail international outgoing call services at a fixed location, covering services for residential customers (M2a) and business customers (M2b).[16]

These markets contain all international outgoing calls from a fixed line, payphone or calling card for residential customers (M2a) and business customers (M2b). Annex II contains a more detailed overview of the services contained in this market. The previous MDDD analysis in 2011 considered a single product market for international outgoing call services (known as International Direct Dialling (**IDD**)). This market contained international outgoing calls at a fixed location and via mobile devices, and captured both residential and business customers.

In these markets Vodafone was unable to provide data which distinguished residential and business customers, therefore the analysis of market shares is based on both residential and business subscribers. However, as noted below, this does not change the Authority's conclusions on the individual markets.

6.2.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

6.2.1.1 Current market structure and barriers to entry/expansion

Retail international outgoing call services at a fixed location are currently offered by Ooredoo and Vodafone.

- Ooredoo offers retail international calls at a fixed location via its nationwide copper (PSTN) and fibre-optic (NGN) based network.
- Vodafone offers retail international calls at a fixed location to predominantly residential customers at the Pearl and in Barwa City, Barwa Commercial and parts of West Bay. At the Pearl, it relies on wholesale broadband access to Ooredoo's fixed network and for the other areas (in Barwa City, Barwa Commercial and parts of West Bay) it relies on QNBN's passive infrastructure.

As such, Ooredoo remains the owner of the only national fixed access and core network required to provide retail international outgoing call services at a fixed location in Qatar.

6.2.1.2 Market shares[17]

Market shares in the total retail market for international outgoing call services at a fixed location have remained stable since 2011. In particular, Ooredoo remains in control of around ✂ of the total fixed IDD call traffic and associated revenues across both residential and business customers.

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[16] Note that the market for retail international outgoing call services from a mobile device (M2c and M2d) was already reviewed as part of Phase I of the MDDD update and not considered susceptible to ex-ante regulation. As such, it is not considered further during Phase II of this MDDD update.

[17] Data on market shares was available at the overall market level only, without split into residential and business customers.

Figure 7 shows that since entering the market in 2013, the share of volumes controlled by Vodafone has been growing slightly, but at a very slow pace and they remain a very small share of the total market. Data is unavailable to assess market shares separately in the residential and business markets. However, if all of Vodafone's fixed IDD minutes were assumed to be originated by residential customers, Ooredoo's share would only fall to ✂ in that market (i.e. this is a lower bound of Ooredoo's market share in the residential market for international outgoing call services at a fixed location).[18]

Figure 7. Volume market shares - International outgoing call services at a fixed location, Q1 2011 – Q2 2015. ✂

However, the overall volume of fixed IDD services has declined by ✂ between Q1 2013 and Q2 2015 (as shown in **Figure 8**).This suggests that fixed consumers increasingly use alternative services for making international calls. Looking at Ooredoo's overall volumes of fixed to international traffic from residential and business customers in **Figure 9** reveals that this decline affected both customer segments of the market.

Figure 8. Total fixed outbound IDD traffic, Q1 2011 – Q2 2015 ✂

Figure 9. Ooredoo's fixed outbound IDD traffic from residential and business customers, Q1 2013 – Q1 2015✂

6.2.1.3 Price trends and pricing behaviour

Ooredoo's average revenue per minute for fixed IDD services has been stable since 2011 in both the residential and business segments of the market (as shown in **Figure 10**).

Figure 10. Ooredoo's average revenue from fixed outbound IDD services for residential and business customers, Q1 2011 – Q2 2015 ✂

While average revenue per minute is not a perfect proxy for average prices (as changes in per minute revenue might reflect changes in the composition of calls rather than changes in prices), the Authority is not aware of there being an underlying change in the composition of Ooredoo's fixed outbound IDD traffic which may distort these average revenue trends[19]. Notwithstanding the recognised limitations of the data, the trends in average revenues fail to demonstrate competitive downward pressure on Ooredoo's retail prices, either from Vodafone since it entered the market or from OTT-based services.

Vodafone's average revenues have been increasing over the last few quarters, but they remain below those of Ooredoo (as shown by **Figure 11**) [20].

Figure 11. Average revenue from fixed outbound IDD services, Q1 2011 – Q2 2015 ✂

6.2.2 Application of the TCT to these Candidate Markets

In Phase I of this MDDD update, the Authority applied the TCT to these Candidate Markets and concluded that they remain susceptible to ex-ante regulation.[21]

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[18] If all Vodafone's fixed IDD minutes are assumed to be by business customers, then Ooredoo's share of business IDD minutes is ✂%.

[19] For example, if Ooredoo's retail prices have fallen over time, but the share of IDD traffic higher priced call destinations had increased as well, this could result in the price reductions not being reflected in the average revenues trends presented above.

[20] Vodafone revenue data did not allow separating the residential and business segments of the market.

[21] For further details, please refer to Section 4.6 and 4.7 of CRA 2015/05/12NC and the relevant discussions in CRA 2015/RAC/09.

Given the above, the Authority has conducted a competition assessment of these Relevant Markets, the preliminary findings of which are presented below.

6.2.3 Market analysis and Dominance Assessment for fixed outgoing IDD services to residential customers (Market M2a)

As part of the previous MDDD, Ooredoo was found to be dominant in the market for outbound (fixed and mobile) IDD services. Below, the Authority reviews the evidence on whether Ooredoo remains dominant in the market for fixed outgoing IDD services to residential customers (M2a).

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

Whilst the Authority does not hold information on the fixed outbound IDD traffic volumes and associated revenues for Vodafone's *residential* customers only, Vodafone's prevailing low total fixed IDD traffic and revenue across both segments indicates that Ooredoo remains in control of the vast majority of the market.

Control over essential facilities and infrastructures

Ooredoo is in control of the only national fixed access and core network required to provide retail fixed outgoing IDD services across all areas within Qatar.

All remaining NSPs are dependent on gaining access to Ooredoo's network infrastructure at the wholesale level or to QNBN's passive infrastructure (where it is available).

Furthermore, there are currently no obligations imposed on Ooredoo to offer either Carrier Selection (CS) or Carrier Pre Selection (CPS) services.

Barriers to entry and/or expansion

There are high and non-transitory barriers to entry for providers of international outgoing call services at a fixed location, constraining the potential for the market to become competitive. These include the sunk costs of building a competing fixed infrastructure, licensing requirements and the need for commercial negotiations on call termination with service providers abroad.

Furthermore, the Authority has considered whether out of market constraints, such as OTT services, potentially could contribute to providing a competitive constraint, and has concluded that this may be increasingly the case going forward, if OTT communications services continue to grow in popularity. The Authority also notes that entry barriers are much lower for OTT services, as illustrated by the effective presence in Qatar of providers like Viber and WhatsApp.

The Authority is not aware of any barriers to expansion for Ooredoo, while Vodafone's expansion is subject to it having continued and non-discriminatory access to Ooredoo's and QNBN's fixed network infrastructure. Since OTT services are not dependant on fixed network infrastructure, they do not face similar expansion barriers. However, the degree to which OTT services can substitute for fixed IDD calls is limited as demonstrated by the limited pressure on prices. This limited substitutability is – amongst others – due to the need of similar technologies on the terminating part of the OTT services.

Countervailing Buyer Power

The Authority considers that buyers in this market do not have sufficient size to exert countervailing buyer power to curtail the exercise of market power by a DSP such that individual buyers could credibly switch to another provider, or sponsor entry, to a degree that could constrain the exercise of market power.

Preliminary conclusion

Given the above, the Authority has come to the preliminary view that Ooredoo has a dominant position in the residential segment of the retail market for international outgoing call services at a fixed location (M2a). However, the Authority notes that, Ooredoo may be facing increasing competitive pressure from OTT service providers.

6.2.4 Market analysis and Dominance Assessment for fixed outgoing IDD services to business customers (Market M2b)

As mentioned above, as part of the previous MDDD, Ooredoo was found to be dominant in the market for outbound (fixed and mobile) IDD services – including both the residential and business customer segment. Below, the Authority reviews the evidence on whether Ooredoo remains dominant in the market for fixed outgoing IDD services to business customers (M2b).

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As discussed in Section 6.2.3 above, the Authority does not hold information on Vodafone's fixed outbound IDD traffic volumes and associated revenues for business customers only. However, Vodafone's prevailing low total fixed IDD traffic and revenue across both segments indicates that Ooredoo's remains in control of the vast majority of the market.

Control over essential facilities and infrastructures

Similarly, to the residential segment of the market discussed in Section 6.2 above, Ooredoo controls the only national fixed access and core network required to provide retail outbound fixed IDD services in Qatar.

All remaining NSPs are dependent on gaining access to Ooredoo's network infrastructure at the wholesale level or to QNBN's passive infrastructure, where available.

Barriers to entry and/or expansion

The high and non-transitory barriers to entry for providers of outbound fixed IDD services in the residential segment also apply to the business segment.

The Authority is not aware of any barriers to expansion for Ooredoo, while Vodafone's expansion is subject to it having continued and non-discriminatory access to Ooredoo's and QNBN's fixed network infrastructure.

Countervailing Buyer Power

The Authority has not received any evidence to date to suggest the presence of countervailing buyer power in this market. While one or two businesses are likely to be large, they can only be assumed to exercise countervailing buyer power if their actions (in switching suppliers, or sponsoring entry) are likely to competitively constrain prices in the market. However, since it is likely that tariffs for very large business customers will be negotiated on a bespoke basis, their actions are unlikely to provide a competitive constraint across the wider market.

Furthermore the Authority has not seen evidence that large business customers are able and willing to switch to alternative suppliers.

Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo continues to have a dominant position in the market for retail international outgoing call services at a fixed location for business customers (M2b).

6.3 Market for retail national leased line services (M3)

Below, the Authority has considered the market for retail national leased line services (M3).

This market typically contains national leased lines and associated services, irrespective of the technology used to provide leased and dedicated capacity. It further includes point-to-point connectivity services between two sites and between multiple sites (i.e., point-to-multipoint). Annex II provides further details of the services covered by this market.

6.3.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence:

6.3.1.1 Current market structure and barriers to entry/expansion

There are currently two Qatari NSPs providing retail national leased line services to Qatari customers:

- Ooredoo offers retail national leased line services via its nationwide copper (PSTN) and fibre-optic (NGN) based network; and
- Vodafone offers retail national leased line services mostly via QNBN fibre. In some instances Vodafone has rolled out its own fibre.

6.3.1.2 Market shares

Market shares in the retail national leased lines market have remained stable since 2011. Ooredoo continues to have close to ✂ of the market.

Since entering the market in the early 2014, Vodafone has captured less than ✂ of the total volume of retail national leased lines sold and approximately ✂ of the associated revenues.

6.3.1.3 Price trends and pricing behaviour

The Authority is not aware of any significant changes in the list prices for retail national leased line services since 2011. However, it notes that effective prices may have fallen due to e.g. increases in the average bandwidths offered on the retail national leased line products

6.3.2 Application of the TCT to this Candidate Market

Based on the key relevant market trends and evidence presented above, the Authority has applied the TCT to the market for retail national leased line services (M3) to consider whether it remains susceptible to ex-ante regulation.

It considers in turn whether:

- the market has high and non-transitory barriers to entry;
- the market has a tendency to competition; and
- competition law is sufficient.

If these conditions are not met, the Authority further considers whether the presence of wholesale remedies would be sufficient to mitigate the high barriers to entry / and or lack of tendency to competition or insufficiency of competition law.

High and non-transitory barriers to entry

The Authority considers that there are high and non-transitory barriers to entry for providers of national leased line services in Qatar. Similarly to retail access, fixed voice and broadband services discussed above, a key entry barrier is the availability of the physical network. This requires either gaining wholesale access to the infrastructure or facing the costs required to build a competing national fixed network which could be used to offer leased lines (we consider below the implications of existing wholesale remedies mitigate this barrier).

The Authority notes that while Vodafone provides retail national leased line services, it is dependent on wholesale access to Ooredoo's network.

The licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has assessed whether the market for retail national leased lines has a tendency to competition. In doing so, it has considered price trends, market shares, barriers to expansion, and whether an operator controls infrastructure that is not easily duplicated.

- <u>Barriers to expansion and control of bottleneck infrastructure.</u> Ooredoo has control over the key infrastructure used to deliver national leased lines in Qatar. Alternative providers (including Vodafone) are dependent on wholesale access to Ooredoo's fixed access network, or are required to deploy their own fibre and duct network, or rent duct from QNBN (where available). The Authority is not aware of any barriers to expansion for Ooredoo. For Vodafone, there are no barriers to expansion, if it has genuine, non-discriminatory access to Ooredoo's fixed access network infrastructure or QNBN's passive infrastructure (where available) to deliver these services in Qatar. However, its prevailing low market share of retail leased lines, in this market suggests that NSPs do not have true equality of access compared to Ooredoo's self-supply.
- <u>Market shares</u>. As shown in Section 6.3.1.2 above, Ooredoo retains a market share of close to ✂. Vodafone's share of national leased line revenues has slightly increased over time. However, the Authority considers it unlikely that, in the absence of regulatory intervention, this market will tend to competition in the timeframe considered as part of this MDDD update.
- <u>Price trends</u>. The Authority is not aware of any changes in list prices for national leased lines over the time period considered. This is despite Vodafone's market entry which as such does not appear to have resulted in enhanced competitive pressure on Ooredoo in this market.

Therefore, the Authority concludes that the market for retail national leased line services does not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy potential anti-competitive behaviour in this market.

Given that Ooredoo's dominance is related to its control of the only pervasive national fixed infrastructure, the provision of ex-ante remedies could be used to support the development of competition. As a matter of fact, the design and implementation of such remedies would be lengthy and implementation cannot be implemented in a timely manner to remedy ex post anti-competitive behaviour.

As such, the Authority considers that at the current stage of this market's development, ex-post remedies alone will not be sufficient to address concerns related to market dominance.

Given the above, the Authority has conducted a competition assessment of this Relevant Market. The preliminary findings of this assessment are presented below.

Wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation

The Authority has also considered whether the retail market would remain susceptible to ex-ante regulation in the presence of relevant wholesale remedies. If the wholesale remedies lowered barriers to entry in the retail market; and / or implied a tendency to competition; and / or meant that competition law was sufficient at the retail level, then this would imply that the market may not be susceptible to ex-ante regulation at the retail level.

The Authority notes that there are already a suite of ex-ante regulations imposed at the wholesale level, including the possibility for the NSPs to sign agreements on wholesale products needed for providing National Retail Leased Lines. There has been limited use of these remedies at this time. This may reflect the fact that entrants using these remedies would still have to incur a degree of sunk costs, and that there are frictions preventing the signature of agreements for the provision of services which are supplied as part of the ex-ante regulations.

The Authority therefore considers that there is no evidence that the presence of wholesale ex-ante remedies is sufficient to enable entrants to supply services in the market and achieve a sufficient scale to competitively constrain existing market players. It therefore concludes that wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation.

Conclusion on the TCT

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the market for retail national leased line services (M3) remains susceptible to ex-ante regulation. In particular, the market is characterised by high and non-transitory barriers to entry. In addition, while Vodafone began supplying this market in 2014, the market is highly concentrated and the degree of competition is weak. Lastly, competition law may not be sufficient in this market due to the dependency on access to Ooredoo's fixed network infrastructure to provide national leased line services.

6.3.3 Market analysis and dominance assessment

In the previous MDDD in 2010/11, Ooredoo was found to be dominant in the market for retail national leased line services. Below, the Authority presents its preliminary findings on whether this remains the case.

Preliminary assessment on competitive dynamics in this Relevant Market

Based on its assessment of the key market trends and evidence set out in Section 6.3.1, the Authority preliminarily concludes that Ooredoo is dominant in the market for retail national leased line services.

Market shares and market concentration

As stated in Section 6.3.1.2, Ooredoo has retained a share of total leased lines close to ✂ and over ✂ of the associated revenues.

Control over essential facilities and infrastructures

As stated in Section 6.4.1.2 above, Ooredoo has control of the key infrastructure to deliver retail national leased line services in Qatar. This is because Vodafone's fibre network and QNBN's passive infrastructure both have only limited coverage in Qatar.

Barriers to entry and/or expansion

As stated in Section 6.3.2 above, the Authority considers there to be high and non-transitory barriers to entry for providers of national leased line services in Qatar. This includes the high (sunk) costs of deploying a national fixed network infrastructure.

Whilst Vodafone provides retail national leased line services, its service is dependent on Vodafone having deployed its own fibre (which is currently limited in geographic scope) or gaining access to QNBN's passive infrastructure (where available). For all remaining geographic areas, Vodafone is dependent access to Ooredoo's wholesale services; however, it may not have full equality of access when compared with Ooredoo (for example, if there is an information asymmetry in the availability and quality of leased lines). This limits its ability to be as responsive to requests for leased line services when compared with Ooredoo.

Countervailing Buyer Power

While one or two businesses are likely to be large, they can only be assumed to exercise countervailing buyer power if their actions (in switching suppliers, or sponsoring entry) are likely to competitively constrain prices in the market. Based on feedback from NSPs to date, the Authority understands that they have to respond to requests for tenders in which the price offered is commonly a key consideration. Therefore, since it is likely that tariffs for very large business customers are likely to be negotiated on a bespoke basis, their actions are unlikely to provide a competitive constraint across the wider market.

Preliminary conclusion

Based on its assessment of the key market trends and evidence set out above, the Authority preliminarily concludes that Ooredoo is dominant in the market for retail national leased line services.

6.4 Market for retail international leased line services (M4)

Below, the Authority has considered the market for retail international leased line services (M4).

This market contains typically international leased lines and associated services, irrespective of technology, used to provide leased and dedicated capacity. It further includes point-to-point connectivity services between two sites and between multiple sites (i.e., point-to-multipoint). Annex II provides further details of the services covered by this market.

6.4.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

6.4.1.1 Current market structure and barriers to entry/expansion

As for retail national leased lines discussed in Section 3.3 above, there are two Qatari NSPs providing retail international leased line services to Qatari customers: Ooredoo and Vodafone. However, as for retail national leased lines discussed above, Vodafone remains dependent on its own limited fibre network and QNBN's passive infrastructure network to deliver these services in Qatar.

The Authority further understands from a recent submission by Ooredoo that several international operators have PoPs in Qatar which may enable them to offer retail international leased lines terminating in Qatar (based on buying the terminating segment from Ooredoo at the wholesale level at agreed terms and conditions). The Authority has seen no evidence on the number or value of retail international leased lines sold by these providers in Qatar. As these international providers are not licensed in Qatar, they are not able to offer their services to Qatari customers (i.e., a customer based in Qatar cannot purchase these services from the international providers). Even when serving customers outside of Qatar, these providers have no control over the customer relationship or the last mile to the Qatari customer (which is owned and operated by NSPs). As such, the Authority has come to the preliminary view that service providers based outside of Qatar do not provide a competitive constraint for Qatari based customers.

Therefore, when assessing the market, it is relevant to consider only retail international leased line services offered in Qatar.

6.4.1.2 Market shares

Market shares in the retail international leased lines are shown in **Figure 12** below. Since entering the market in early 2014, Vodafone has captured less than ✂of the total volume of retail international leased lines sold and approximately ✂ of the associated revenues.

Figure 12. Revenue market shares – International leased lines, Q1 2011 – Q2 2015

✂

6.4.1.3 Price trends and pricing behaviour

Average revenues for retail international leased lines have declined since 2011 (see Figure 12 below).

Figure 13. Average revenue index (Q1 2014 = 100) – Retail international leased lines

The Authority notes that there has been no marked difference in the average revenue per line since Vodafone launched its services in this market in early 2014.

The Authority understands that in order to sell retail international leased lines, NSPs commonly have to respond to requests for tenders by corporations or government clients, with the price offered being a key consideration in determining the successful provider of these services. According to Ooredoo, this has led to average prices declining over time. Given the relative size and limited number of these customers, this market could be characterised by a degree of countervailing buying power. However, the Authority exercises caution in interpreting the data related to decreasing prices since changes may reflect changing mix of services, rather than changing prices.

6.4.2 Application of the TCT to this Candidate Market

Based on the key relevant market trends and evidence presented above, the Authority has applied the TCT to the market for retail international leased line services (M4) to consider whether it remains susceptible to ex-ante regulation.

It considers in turn whether:

- the market has high and non-transitory barriers to entry;
- the market has a tendency to competition; and
- competition law is sufficient.

If these conditions are not met, the Authority further considers whether the presence of wholesale remedies would be sufficient to mitigate the high barriers to entry / and or lack of tendency to competition or insufficiency of competition law.

High and non-transitory barriers to entry

The Authority considers that there are high and non-transitory barriers to entry for providers of international leased line services in Qatar. As discussed for retail access, fixed voice and broadband services above, a key barrier is the high level of costs required to build a competing national fixed network infrastructure.

The Authority notes that Vodafone provides retail international leased line services. However, as discussed in the context of national leased lines, it currently relies on its own limited fibre deployments and QNBN's passive infrastructure network to deliver these services in Qatar.

The licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has considered whether the market for retail international leased lines has a tendency to competition. In doing so, it has considered price trends, market shares, barriers to expansion, and the control of infrastructure not easily duplicated.

- <u>Barriers to expansion and control of bottleneck infrastructure</u>. Ooredoo remains in control of the key infrastructure to deliver retail international leased lines in Qatar (in particular, the local access segment). Whilst Vodafone provides retail international leased line services, its service is again dependent on Vodafone having deployed its own fibre (which is currently limited in geographic scope) or gaining access to QNBN's passive infrastructure (where available). For all remaining geographic areas, Vodafone remains dependent on genuine, non-discriminatory access to Ooredoo's wholesale leased lines services. However, it may not have full equality of access when compared with Ooredoo (for example if Vodafone faces an information asymmetry in the availability and quality of leased lines).

- Market shares. As shown in Section 6.4.1.2 above, Ooredoo retains a market share in excess of ✂ in this market. Whilst Vodafone's share of international leased line revenues has increased over time, the Authority considers it unlikely that, in the absence of regulatory intervention, this market will tend to competition in the timeframe considered as part of this MDDD update.
- Price trends. Whilst average revenues for international leased lines appear to have declined over time, there has been no obvious change in the trend since Vodafone entered this market in early 2014. The Authority notes that under the under the current Retail Tariff Instruction (RTI), Ooredoo is able to offer customers bespoke prices for retail international leased line services without having to also publish the relevant tariffs on its website.[22]

Therefore, the Authority concludes that the market for retail international lease line services does not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority preliminarily concludes that competition law is not sufficient to investigate and remedy potential anti-competitive behaviour in this market.

Given that Ooredoo's dominance is related to its control of the only pervasive national fixed infrastructure, the provision of ex-ante remedies could be used to support the development of competition. However, the design and implementation of such remedies would be lengthy and they cannot be implemented in a timely manner.

Wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation

The Authority has also considered whether the retail market would remain susceptible for ex-ante regulation in the presence of relevant wholesale remedies. If the wholesale remedies lowered barriers to entry in the retail market; and / or implied a tendency to competition; and / or meant that competition law was sufficient at the retail level then this would imply that the market may not be susceptible to ex-ante regulation at the retail level.

The Authority notes that there are already a suite of ex-ante regulations imposed at the wholesale level, such as the Infrastructure Access Agreement and other Agreements signed by the NSPs for the provision of the terminating segments. There has been limited use of these remedies at this time. This may reflect the fact that entrants using these remedies would still have to incur a degree of sunk costs, and that there are frictions in the provision of services which are supplied as part of the ex-ante regulations.

The Authority therefore considers that there is no evidence that the presence of current wholesale ex-ante remedies is sufficient to enable entrants to supply services in the market and achieve a sufficient scale to competitively constrain existing market players. It therefore

[22] However, Ooredoo still has to file bespoke pricing with the Authority.

concludes that wholesale remedies do not negate the conclusion that the market is susceptible to ex-ante regulation.

Conclusion on the TCT

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the market for retail international leased line services (M4) remains susceptible to ex-ante regulation. In particular, the market remains characterised by high and non-transitory barriers to entry and high market concentration. Whilst entry has occurred since the last MDDD in 2010/11, the degree of competition remains weak. Competition law is unlikely to be sufficient in this market due to the dependency on access to Ooredoo's fixed network infrastructure to provide these services.

6.4.3 Market analysis and Dominance Assessment

In the previous MDDD, Ooredoo was found to be dominant in the market for retail (national and international) leased line services. As part of this MDDD update, the Authority has assessed whether this remains the case and presents its preliminary findings below.

Preliminary assessment on competitive dynamics in this Relevant Market

Based on its assessment of the key market trends and evidence set out in Section 6.4.1 above, the Authority preliminarily concludes that Ooredoo is dominant in the market for retail international leased line services.

Market shares and market concentration

As stated in Section 6.4.1 above, Ooredoo has retained a market share of over ✂ of the total retail international leased lines and associated revenues.

Control over essential facilities and infrastructures

As stated in Section 6.4.1.2 above, Ooredoo remains in control of key infrastructure to deliver retail international leased line services in Qatar (i.e., as it operates the only national fixed access network in Qatar).

Barriers to entry and/or expansion

As stated in Section 6.4.1.1 above, the Authority considers there are high and non-transitory barriers to entry for potential providers of international leased line services in Qatar, in terms of the high (sunk) costs of deploying a national fixed network infrastructure and prevailing licensing arrangements in Qatar.

Whilst Vodafone provides retail international leased line services, these services are dependent on Vodafone having deployed its own fibre or gaining access to QNBN's passive infrastructure (where available).

Pricing trends and characteristics

The Authority recognises that average revenues have declined over time in this market. Based on feedback from NSPs to date, it understands that this is a result of them having to respond to requests for tenders, in which the lowest price offered is commonly a key consideration. Given the relative size and limited number of retail international leased line customers, this market could be characterised by exhibiting a degree of countervailing buying power, limiting NSPs ability to influence the price of international leased line services (independent of their position in the market). However, the Authority exercises caution in interpreting this data since changes may reflect a changing mix of services, rather than changing prices. Furthermore, countervailing buyer power can only truly be exercised when buyers have alternative sources of supply (including self-supply) for the relevant service. In this case, it is not clear that purchasers of international leased lines do have such sources.

Preliminary conclusion

Based on its assessment of the key market trends and evidence set out in Section 6.4.1 above, the Authority preliminarily concludes that Ooredoo is dominant in the market for retail international leased line services.

6.5 Market for retail national mobile voice and broadband services (M5)

In Phase I of this process, the Authority defined a combined market for mobile voice and broadband services. The market is split into segments for business and residential customers. This market contains typically pre-paid and post-pay mobile connections services for residential and business customers, national (on-net and off-net) mobile call services, messaging services and mobile broadband services for residential and business customers. Annex II contains a more detailed list of the services contained in this market.

The Authority found that the market for retail residential national mobile voice and broadband services (M5a) did not pass the TCT and so was not susceptible to ex-ante regulation. However, it noted that if evidence (such as data on market shares, along with other information on the reasons of the performances of the NSPs) suggests that the market no longer has a tendency to competition, the Authority may revisit its decision. Therefore, the Authority committed to monitor this market during Phase II of this MDDD process and beyond, and examine the evidence on the degree of competition observed in it using both quantitative and qualitative information.

The Authority determined the Candidate Market M5b (Retail national mobile voice and broadband services – Business customers) was likely to be susceptible to ex-ante regulation, at least until a well-functioning ex-ante remedy is introduced to enable competitors to Ooredoo to effectively and successfully compete in the segment of this market which is characterized by converged fixed and mobile packages.

Below, the Authority has considered the market for retail national mobile voice and broadband services, covering services for residential customers (M5a) and business customers (M5b).

6.5.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence:

6.5.1.1 Current market structure and barriers to entry/expansion

Retail mobile services in Qatar are provided by two NSPs, Ooredoo and Vodafone. Vodafone entered the market as the second mobile operator in 2009. Both NSPs provide services through their own national mobile networks and provide 2G, 3G and 4G voice and broadband services for both residential and business customers.

Barriers to entry in this market are in the form of the sunk costs related to investing in mobile network infrastructure. In addition, licencing arrangements in Qatar are a further barrier to entry. Although these barriers are high, two NSPs, Ooredoo and Vodafone are already in this market.

As the overall market is still growing and Vodafone has managed to build significant scale since entry in 2009, this suggests that there are no significant barriers to expansion in the market. This extends to the growing mobile broadband segment, as both NSPs have a significant customer base and networks through which to provide these services.

6.5.1.2 Market shares

In the markets for national mobile voice and broadband services (i.e., including residential and business customers), Vodafone's share of revenues has increased since 2011 reaching a peak of ✂ in Q2 2014, although it has declined in the following four quarters (see **Figure 14** below).

Figure 14. Market Shares for National mobile voice and broadband service revenues (business and residential) ✂

The Authority understands that this may in part be due to Ooredoo's success in the mobile broadband market, which has had a very significant impact on its revenues. Vodafone has further seen a decline in prepay revenues (and is less successful in the post-pay segment). Notwithstanding this, Vodafone has managed to capture a significant share of the residential market since 2011.

Revenue shares in the residential market have remained level since early 2013 (see Figure 15 below). [23]

Figure 15. Residential mobile market revenue share (based on VF mobile voice revenues – business revenues)[24] ✂

Vodafone's revenue shares in the business segment have grown up to 2014 but have since remained relatively stable (see **Figure 16** below).

Figure 16. Business mobile market revenue shares[25] ✂

6.5.1.3 Price trends and pricing behaviour

The Authority notes that for both national voice and broadband mobile services, Ooredoo and Vodafone appear to have engaged in competition across various metrics.

Firstly, there is evidence of price competition between the providers (see **Figure 17.** and **Figure 18.** below), which has typically led to decreases in headline prices or increases in bundle sizes. For example, when one NSP engages in a promotion, this is often quickly matched by the other NSP[26].

This suggests there is price competition between the NSPs, as this tariff matching may signal that both operators feel competitive pressure as a result of the other NSPs' actions. Indeed, the Authority also notes that these price reductions have followed cost (per unit) declines observed in the timeframe of the analysis.

In addition, NSPs are also engaging in competition based on speeds and reliability according to advertisements issued by the NSPs.

[23] Note that the Authority has less confidence in data provided by the SP Residential mobile market revenue share, and business mobile market revenue share due to deficiencies in the data. It therefore considers the estimates of Vodafone's share to be an ***upper bound,*** and that market share estimates of residential plus business are more accurate.

[24] The Authority only has mobile service revenue data disaggregated into residential and business customers up to Q2Q4 2014. This is due to the data availability at the timing of the relevant information collection exercise.

[25] The Authority only has mobile service revenue data disaggregated into residential and business customers up to Q2Q4 2014. This is due to the data availability at the timing of the relevant information collection exercise.

[26] For example: In August 2014, both SPs reduced local call rates to ✂ QAR/ minute from ✂ QAR/ minute*.

Figure 17. and **Figure 18.** below show the trends of average mobile broadband revenue per connection by NSP and of the average revenue per minute for mobile calls, split by NSP and customer segment.

Figure 17. Average mobile broadband revenue by NSP and customer segment.[27] ✂

Figure 18. Average revenue per minute of mobile calls by NSP and customer segment[28]✂

6.5.2 Application of the TCT to these Candidate Markets

Within Phase I of this MDDD update, the Authority applied the TCT to these Candidate Markets.

Market for retail national mobile voice and broadband services - Residential customers (M5a)

In Phase I, the Authority concluded that Market M5a showed a tendency to competition due to the presence of a second operator (Vodafone) with competing end-to-end infrastructure. Further there was no compelling evidence to show barriers to expansion.

The Authority has reviewed the evidence on the latest market developments since the end of Phase I and no new evidence has been presented so far to alter this view. In addition, the Authority maintains in the view that competition policy will be sufficient to deal with any concerns in this market. Therefore, the Authority remains of the view that this market does not meet the criteria of the TCT and therefore will not be considered further in this review.

Market for retail national mobile voice and broadband services – Business customers (M5b)

In Phase I, the preliminary view of the Authority for M5b was that the presence of a second operator (Vodafone) with competing end-to-end infrastructure suggested that barriers in this market are not insurmountable. Although the Authority was of the view that competition law would be sufficient to address any potential anti-competitive concerns related to the provision of access to mobile infrastructure (especially given the existence of competing end-to-end infrastructure in this market), it had prevailing concerns about whether the market showed a tendency to competition. This was because converged fixed and mobile products appeared to be increasingly important to some business consumers, and as such the Authority considered that the absence of effective wholesale remedies in adjacent wholesale fixed network markets may limit the development of competition for these large business users who value converged mobile and fixed data packages. Therefore, the Authority could not yet conclude that the market had a tendency to competition at least until a well-functioning ex-ante remedy was introduced to enable competitors to Ooredoo to effectively and successfully compete in the segment of this market. Once such a wholesale product is available, the Authority recognized that this market may tend to effective competition and so will not be susceptible to ex-ante regulation and as such, may revisit its decision at such a time.

The Authority notes that the business market is characterised by two competing end-to-end network infrastructures, in the same manner as the residential market. Similar to the Authority's views on the residential market therefore, expressed in above, the Authority considers that these competing infrastructures will allow for competition in this market. In its Phase I Decision,

[27] Note no accurate data is available for Vodafone pre Q2 2013. Further, the Authority only has mobile service revenue data disaggregated into residential and business customers up to Q2 2014. This is due to the data availability at the timing of the relevant information collection exercise.

[28] The Authority only has mobile service revenue data disaggregated into residential and business customers up to Q2 2014. This is due to the data availability at the timing of the relevant information collection exercise.

the Authority also considered whether the importance of converged services to business customers and the resulting needs for additional wholesale offerings. Further, information recently provided to the Authority does not support the previous suggestion that the lack of converged service offerings may cause business customers to switch. Evidence from both NSPs suggests that customers are concerned with price, quality (network quality and coverage) and customer service. On this basis, the Authority concludes that the business segment has similar characteristics to the residential segment at present. Therefore Market M5b should also be considered to not meet the criteria of the TCT and hence not be susceptible for ex-ante regulation.

The Authority therefore preliminarily concludes that neither Market M5a nor M5b should be susceptible to ex-ante regulation.

7 Assessment of wholesale service related Candidate Markets

This Section sets out key findings of the Authority's preliminary assessment of whether the wholesale service related Candidate Markets are susceptible to ex-ante regulation. It further presents the preliminary findings of the Authority's market analysis and dominance assessment of Relevant Markets for wholesale services (i.e., all wholesale service related Candidate Markets which are considered susceptible to ex-ante regulation).

In general, market shares provide benchmarks for assessing the degree to which service providers can exercise market power. In retail markets, telecommunications services are consumed by third parties. This allows the market share of each service provider to be measured based on the volumes sold to these parties and the revenues associated with these sales.

However, this situation differs in the context of wholesale markets for telecommunications services. This is because these services are often supplied internally by vertically integrated operators to their own downstream (retail) units. As such, in assessing these wholesale markets, the Authority has considered both volumes provided to third parties and those supplied to the NSP's own downstream operations (i.e. self-supply). This is because of the above and due to the fact that market power at the wholesale level is linked to the level of competition in the relevant retail markets (to which the wholesale products form an input to). In particular, vertically integrated operators would only have an incentive to increase the price of the self-supply input if this is reflected in higher retail prices and retail consumers do not switch away from that service (commonly referred to as indirect constraints). Taking into account any direct and indirect constraints to vertically integrated operators, it is relevant to consider the total available volumes of that wholesale service (not just the volumes supplied to third parties) and thus to consider total volumes including self-supply.

Further, by including self-supply, this provides a better indication of the scope that each operator may have to provide the wholesale service to third parties. This is particularly relevant in markets where there are limited third party buyers and the incumbent operator is the only party that can provide a potential wholesale service (as is currently the case for most wholesale service markets in Qatar). Here, in the absence of regulation third party demand may be curtailed, as it is often not in the interest of the incumbent operator to provide access on reasonable terms and conditions to its downstream rivals.[29]

7.1 Wholesale call origination on public telecommunications networks at a fixed location (M6)

Below, the Authority has considered the market for wholesale call origination on public telecommunications networks at a fixed location (M6). This market captures all wholesale call origination services, including self-supply. See Annex II for further details.

7.1.1 Key market trends and evidence considered

[29] For example the European Commission refers to third party "merchant market" and concludes that "where there is no merchant market and where there is consumer harm at retail level, it is justifiable to construct a notional market when potential demand exists. Here the implicit self-supply of this input by the incumbent to itself should be taken into account". See BEREC (2010) BoR (10) 09 BEREC Report on self-supply.

In assessing this market, the Authority considered the below evidence.

7.1.1.1 Current market structure and barriers to entry/expansion

Wholesale call origination on public telecommunications networks at a fixed location is offered by both Ooredoo and Vodafone to their own downstream business units. However, the Authority understands that currently no Service Provider purchases call origination from a third party. Ooredoo owns and controls the key physical network necessary to deliver these services in Qatar, whilst Vodafone relies on third party access to network infrastructure from QNBN and bitstream services from Ooredoo to self-supply its equivalent of a call origination service[30].

A fundamental entry barrier in this market is the high cost of building an alternative network infrastructure, particularly considering the size of the Qatari market.

7.1.1.2 Market shares

As this wholesale market is currently used for self-supply only, the market shares broadly reflect those of both NSPs in the relevant retail markets discussed in Section 6.1 above. In particular, as illustrated in the graph below, Ooredoo has retained a market share of close to ✂%.

Figure 19. Market shares – Wholesale fixed call origination, Q1 2011 – Q2 2015 ✂

7.1.1.3 Price trends and pricing behaviour

Prices in this market are fully regulated; therefore any recent trends are reflective of regulation rather than competitive market dynamics. However, given that this market is mostly about self-supply, pricing is not relevant.

7.1.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M6 remains susceptible to ex-ante regulation. In particular, the market remains characterised by high and non-transitory barriers to entry. It is also fully concentrated and there is no competitive pressure on prices. Finally, competition law may not be sufficient in this market as the fixed infrastructure does not face a strong direct competitor, and full market concentration creates risk of excessive pricing behaviour.

High and non-transitory barriers to entry

The Authority considers that there are high and non-transitory barriers to entry for providers of wholesale call origination on public telecommunications networks at a fixed location. A key barrier is the high level of costs required to build a competing national fixed network infrastructure. In particular, the sunk costs that Ooredoo has already invested in its ubiquitous fixed network represent a significant barrier for further entry. Whilst Vodafone could develop its own national fixed network by using QNBN's passive infrastructure (where available), or access to other regulated access products provided by Ooredoo, combined with deploying some of its own network infrastructure, the Authority considers this unlikely to occur within the

[30] If Vodafone uses a managed VOIP solution for providing its retail voice services it may not use traditional call original services. However, markets are defined on a technology neutral basis.

timeframe considered as part of this MDDD update. This is particularly the case given the prevailing limited network coverage offered by QNBN.

Furthermore, the licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has considered whether the market for wholesale call origination on public telecommunications networks at a fixed location is tending towards competition. In doing so, it has considered price trends, market shares, the existence of barriers to expansion, and the potential control of infrastructure not easily duplicated.

- Market shares. As shown above, Ooredoo has retained a market share close to ✂%.
- Price trends. Pricing in this market is potentially subject to regulation and is therefore not influenced by competitive market dynamics.
- Control of bottleneck infrastructure. Ooredoo is in control of the only national fixed access and core network required to provide wholesale call origination on public telecommunications networks at a fixed location in Qatar.
- Barriers to expansion. Whilst Ooredoo does not face barriers to expansion, Vodafone's dependency on third party network access to deliver these services is likely to constitute a barrier to expansion (especially, given the limited network coverage of QNBN).

Based on the above evidence, the Authority concludes that the Market M6 will not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour.

Given that Ooredoo's dominance is related to its control of the only pervasive national fixed infrastructure, the provision of ex ante remedies are likely to be required to support the development of competition. However, the design and implementation of such remedies – that can only be practically administered on an ex ante basis - would be lengthy and implementation would not provide a timely remedy of ex post behaviour. Without such ex ante regulation, including of prices, Ooredoo may have the incentive to restrict access to its network, or set prices above the competitive level.

Given the above, the Authority concludes that Market M6 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.1.3 Market analysis and Dominance Assessment

The previous MDDD analysis in 2010/11 found Ooredoo to be dominant in the market for wholesale call origination on public telecommunications networks at a fixed location.

7.1.3.1 Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As stated above, Ooredoo has retained a market share of close to ✂%.

Control over essential facilities and infrastructures

Ooredoo owns and controls access to the only nationwide physical network infrastructure that is capable of providing wholesale call origination on public telecommunications networks at a fixed location.

Barriers to entry and/or expansion

As stated in Section 7.1.2 above, there are high and non-transitory barriers to entry for providers of services in this market, which constrain any tendency towards competition.

Further, Vodafone's dependency on third party network access to deliver these services is likely to constitute a barrier to expansion.

Countervailing Buyer Power

Buyers in this market do not have sufficient countervailing buyer power to curtail the exercise of market power by the sole operator.

7.1.3.2 Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo has a dominant position in the market for wholesale call origination on public telecommunications networks at a fixed location.

7.2 Wholesale termination on individual telecommunications networks at a fixed location (M7)

Below the Authority has considered the market for wholesale termination on individual telecommunications networks at a fixed location (M7). This market captures all wholesale calls terminated on a fixed location, independent of the technology used to deliver these services. See Annex II for further details.

The Authority notes that given the scope of this market (i.e., termination on individual fixed networks), it is common for each operator to be found to be dominant in the market for call termination on its own network.

7.2.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.2.1.1 Current market structure and barriers to entry/expansion

Wholesale call termination on public telecommunications networks at a fixed location is offered by Ooredoo and Vodafone for termination to own their own networks.

Vodafone and Ooredoo own and control the key physical network infrastructure necessary to deliver these services for calls that end on their network. As such, there is effectively a market for termination on each network.

7.2.1.2 Market shares

Given the nature of the market, Vodafone and Ooredoo both have ✂% market share for termination on their own networks.

7.2.1.3 Price trends and pricing behaviour

Prices in the market for wholesale fixed call termination are fully regulated. This means that any recent trends reflect regulatory decisions rather than competitive market dynamics.

7.2.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M7 remains susceptible to ex-ante regulation. In particular, the market is characterised by high and non-transitory barriers to entry. In addition, the market is fully concentrated and there is no competitive pressure on prices. Lastly, competition law may not be sufficient in this market as each NSP does not face a direct competitor for termination on their network.

High and non-transitory barriers to entry

Given the scope of this market (i.e., termination on individual fixed networks), the concept of barriers to entry does not fully apply. This is because further entry is technically not possible.[31]

[31] The Authority further notes that whilst OTT-based call services could theoretically act as a substitute for these services, this is not relevant in this context as OTT-based call services were excluded from the relevant retail market definitions (since not being considered to be adequate substitutes for “traditional” national fixed call services on a retail level). Given this, OTT-based services also do not form part of the call termination market.

No tendency to competition

The Authority has considered whether the market for wholesale call termination on individual telecommunications networks at a fixed location is tending to competition. In doing so, it has considered price trends, market shares, the existence of barriers to expansion, and the potential control of infrastructure not easily duplicated.

- Market shares. As discussed above, both NSPs have a market share of ✂% for termination on their respective networks.
- Price trends. Pricing in this market is subject to regulation and is therefore not influenced by competitive market dynamics.
- Control of bottleneck infrastructure. Call termination is a bottleneck service on each NSP's network.

Based on the above evidence the Authority concludes that the Market M7 will not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour.

Given that each NSP controls termination access to its own customers, ex ante remedies are likely to be required to ensure that each NSP offers termination services at a reasonable price. However, the design and implementation of such remedies – that can only be practically administered on an ex ante basis - would be lengthy and would not fall within the timespan covered by this analysis. Without such ex ante regulation, including of prices, NSPs may have the incentive to restrict access to its network, or set prices above the competitive level.

Given the above, the Authority concludes that Market M7 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.2.3 Market analysis and Dominance Assessment

The previous MDDD analysis in 2010/11 found Vodafone and Ooredoo to be dominant in the market for wholesale call termination on individual telecommunications networks at a fixed location.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As stated above, given the nature of the market, each NSP has a market share of ✂% in the provision of call termination services to their own customers.

Control over essential facilities and infrastructures

Call termination is a bottleneck service on each NSP's network.

Barriers to entry and/or expansion

As mentioned above, given the scope of this market, the concept of barriers to entry does not apply (i.e. as further entry is technically not possible). However, the Authority notes that there are barriers to expansion for other NSPs to enter into the relevant call termination market on the other NSP's network.

Countervailing Buyer Power

The Authority considers that buyers do not have sufficient countervailing buyer power to curtail the exercise of market power by a DSP. This is because individual buyers could not credibly switch to another provider, or sponsor entry, to a degree that could constrain the exercise of market power.

Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Vodafone and Ooredoo each has a dominant position in the market for wholesale call termination on their respective networks.

7.3 Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary services and collocation space (M8a)

Below the Authority has considered the market for physical access to NSPs' mobile sites, masts, towers, including relevant ancillary services, and collocation space (M8a)[32]. This market includes self-supply.

7.3.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.3.1.1 Current market structure and barriers to entry/expansion

The market includes the supply of access to masts, towers and monopoles, including access to the relevant ancillary facilities and access to space in the relevant collocation facilities. Access to this infrastructure is an input into providing retail mobile services (in the market for retail national mobile voice and broadband services, covering services for residential customers (M5a) and business customers (M5b)), whilst it may further form an input to providing other retail services (e.g. if these are delivered via a fixed-wireless access solution).

Each NSP generally self-supplies its own masts, towers and ancillary equipment to support its network. The location of NSP's masts and tower infrastructure will depend on the demand for mobile capacity within a given geographic area, the availability of sites on which to place infrastructure, as well as the geographic location of existing masts. We understand that Vodafone has ✂ sites[33] and Ooredoo has ✂ sites.

Article 112 of the Telecoms Law requires NSPs to share sites and co-locate, where this is technically and economically feasible. To facilitate this process, the Authority has recently issued instructions on mobile site sharing agreements, which are based on commercial terms.[34] To date, the degree of site sharing is limited in Qatar. In particular, as set out in **Table 4**, this currently only applies to Ooredoo providing access to Vodafone to a small sub-set of its mobile sites and not vice versa. Further, the market for the supply of access to masts is likely to be differentiated such that different mobile sites and masts may not be substitutes for each other.

Table 4. Total volume of accesses to mobile sites, masts and towers sold

	Q1 2012	Q1 2013	Q1 2014	Q1 2015
Ooredoo	✂	✂	✂	✂

Source: Ooredoo's responses to information requests of 9 July 2015

Vodafone reported the number of access to sites acquired. State our understanding and request SPs to clarify if they feel it is wrong

32 Annex 2 provides a non-exhaustive list of the products included in the market.

33 Vodafone data provided to CRA.

34 Available at: http://www.cra.gov.qa/sites/default/files/documents/Mobile%20Site%20Sharing%20Instruction.pdf

Table 5. Total volume of accesses to mobile sites, masts and towers acquired by Vodafone

	Q1 2012	Q1 2013	Q1 2014	Q1 2015
Vodafone	✂	✂	✂	✂

Source: Vodafone's responses to information requests of 9 July 2015

The revenues earned by Ooredoo from supplying access to mobile sites, masts and towers are set out in **Table 6**.

Table 6. Total revenues from providing access to mobile sites, masts and towers QAR 000s

	2011/12	2012/13	2013/14	2014/15
Ooredoo (p/a)	✂	✂	✂	✂

Source: Ooredoo and Vodafone's responses to information requests of 9 July 2015. Each year represent the 12 months ending Q1 each year (i.e. 31 March each year).

7.3.1.2 Market shares

In assessing market shares for the supply of mobile network infrastructure, it is relevant to consider the number of sites used for self-supply. This is because a mobile site that can be used for one NSP can, in most cases, also be used by another NSP.

The Authority considers that the total share of existing sites is likely to approximate the available capacity (since relatively few sites could not accommodate further equipment).

Therefore the market share based on the self-supply of sites shows that Ooredoo has ✂% of sites and Vodafone has ✂% of sites.

Table 7. Total number of mobile cell sites

	Ooredoo	Vodafone
Sites	✂	✂
Share	✂	✂

Source: Vodafone data provided to CRA.

7.3.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M8a is not susceptible to ex-ante regulation. The reasons for this are set out below.

Barriers to entry

NSPs acquire and build a network of towers, masts and other physical infrastructure to support their Radio Access Network (RAN), which in turn is a necessary input in the retail mobile services offered in Qatar.

Typically, NSPs have to acquire access to a certain location (by buying or leasing access); erect a tower on which to place their network equipment; place the necessary network equipment and backhaul data to the NSP's core network.

There can be a number of barriers to erecting masts. These include:

- finding a suitable site with the necessary characteristics for the NSP's network;
- acquiring the rights from the site owner to position the infrastructure; and/or
- acquiring rights from the relevant government and authorities to erect the sites.

While none of these barriers are necessarily significant on their own and during initial roll-out, they can become a potential barrier going forward. In particular, as the density of mobile cell site locations increases, and the number of cell sites increase, then it may become progressively harder to find suitable sites. Indeed, there are a number of drivers related to the increased demand for mobile data which imply that sites may be more densely located in future. First, as demand for mobile capacity increases in a given geographic area and NSPs have exhausted available spectrum, they can instead build new sites to increase supply of mobile capacity in that location. Second, in the medium term, technologies such as 5G will use more densely located cell sites (broadcasting at higher frequencies) to supply very fast mobile broadband.

Furthermore, a new entrant mobile operator may find that there are not many existing available sites on which it can install its equipment.

Therefore, the Authority does not consider that there are significant barriers to entry in this market in general, but it notes that there may be certain geographic areas where there could be significant barriers. Prospectively over the coming three to four years, the proportion of areas where there may be barriers to entry could increase. However, in recognition of this, mobile site sharing and co-location, where technically and economically feasible, is obligatory in Qatar (see Section 7.3.1.1 above).

Therefore, the Authority provisionally concludes that currently there are no high barriers to entry, although barriers to expansion do exist in the market.

Tendency to competition

As discussed above, Ooredoo has around two times the number of sites that Vodafone does and thus more capacity available. However, both NSPs appear to have sufficient capacity for their own self supply. Whilst most of this capacity is used for self-supply, the Authority understands that mobile site sharing is occurring on a commercial basis (governed by the mobile site sharing instructions issued by the Authority) and both NSPs utilise sites from the other NSP. The Authority is not aware of any issues incurred by either NSP in this process. As such, in absence of any further entry into the mobile market, the Authority preliminarily considers this market tends to competition.

Insufficiency of competition law

In the absence of further market entry, the Authority's view is that competition law will be sufficient to intervene in this market should any anti-competitive behaviour arise.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since the two NSPs operate their own infrastructures, hence access remedies would not be required;
- It is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since each NSP controls their own infrastructures; and

- The presence of two competing mobile infrastructures suggests that using ex-ante remedies powers would not be needed to enable the long term development of competition in the market.

Given the above, the Authority concludes that Market M8a should not be susceptible to ex-ante regulation since the market is not characterised by high barriers to entry, there is a tendency to competition since each NSP has access to considerable mobile infrastructure and competition law would be sufficient to deal with any anti-competitive behaviour which did arise.

Based on its preliminary conclusion, the Authority has not considered this market further, in terms of market analysis and dominance assessment.

7.4 Physical access to dark fibre (M8b)

Below, the Authority has considered the market for physical access to dark fibre.

Dark fibre (M8b) includes unused ("unlit") fibre which has already been laid in ducts in trenches. Under the dark fibre service, instead of deploying its own duct and fibre, the access seeker gains access to available (unused) capacity within current laid fibre cables. The access seeker then installs active equipment in the access provider's local exchanges or switches where it hands over the traffic. The access seeker may further require access to the land, exchange /switch buildings, ducts, trenches, joint boxes and poles relevant to the fibre cable access network.

Dark fibre is used as an input into a number of downstream services. These include:

- Retail fixed voice and broadband services;
- Leased lines and corporate connectivity; or
- Mobile voice and broadband services (backhaul).
- These markets again comprise of both self-supply and supply to third parties.

7.4.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.4.1.1 Current market structure and barriers to entry/expansion

The key supplier of dark fibre to third parties in Qatar is QNBN, consistent with its wholesale core business. The Authority understands that Ooredoo claims that is not in a position to provide dark fibre access. However, developers are also an important source of supply (✂% of volumes) though account for a very small proportion of revenues (✂%).

Given the limited geographic coverage of QNBN's network, dark fibre is currently not available throughout Qatar.[35]

7.4.1.2 Market shares

[35] The Authority understands that QNBN has currently deployed circa ✂km of fibre cables within its own duct and the duct leased from Ooredoo.

The market for the wholesale supply of dark fibre is relatively undeveloped in Qatar. Therefore when assessing the market structure for dark fibre, the Authority notes it is relevant to consider available capacity, and self-supply.

The Authority understands that Vodafone is by far the most significant buyer of dark fibre services. Based on this assumption, it has assessed market shares of QNBN and developers in this segment. Based on Vodafone's spend on dark fibre, QNBN has a current share of ✂%.

Table 8. Volume of dark fibre acquired by Vodafone and spend

	Volume km/quarter	Spend QAR 000s	Volume share	Expenditure share
Ooredoo	✂	✂	✂	✂
QNBN	✂	✂	✂	✂
Developers	✂	✂	✂	✂

Source: Vodafone's response to information requests of 9 July 2015

However, the Authority considers it is relevant to consider available dark fibre capacity (i.e. the quantum available dark fibre capacity) and self-supply of dark fibre (i.e. the total quantum of dark fibre in the supplier's networks). This is to adequately reflect the demand and supply of this service to all NSPs. It is likely that Ooredoo has a significant amount of dark fibre which it uses for its own purposes but currently does not wholesale to third parties. When Ooredoo requires incremental capacity in a given point on its network, it will first use existing dark (unlit) fibre before investing in laying new fibre in its network of ducts.

Ooredoo's fibre network is likely to be the most expansive network in Qatar. Ooredoo is likely to have a degree of spare dark fibre capacity in their networks. Given that Ooredoo has the largest network, the Authority considers that it is likely to have the largest amount of available dark fibre (laid to support the evolution of its mobile and fixed networks), and thus the largest share of self-supply of dark fibre.

Given the above, the Authority preliminarily concludes that Ooredoo has the highest share of available dark fibre capacity.

7.4.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M8b remains susceptible to ex-ante regulation.

High and non-transitory barriers to entry or expansion

The Authority considers there to be high barriers to entry and expansion in Market 8b.

Entrants have to invest significant amounts in the civil works required to build the infrastructure (i.e. deployment of dark fibre) for providing services at retail or wholesale level. Further, deploying a national fibre network requires significant time and administrative effort.

While there are economies of scope available to developers who can plan the supply of dark fibre into developments when they are built, these are only in limited geographic areas and at the specific times when developments occur.

No tendency to competition

Based on the data analysed, QNBN is the largest current supplier of dark fibre to third parties (as Ooredoo currently does not offer dark fibre to other NSPs).

However, Ooredoo is likely to have the largest network of available capacity of dark fibre (and the only network with national coverage), as well as the largest self-supply of dark fibre in its own network (which should far exceed the limited amount of dark fibre currently supplied by QNBN and developers to third parties in Qatar). Both these factors indicate that Ooredoo would be able to exploit market power, and that there is not a tendency to competition.

Furthermore, irrespective of any technically feasibility, Ooredoo does not currently have an incentive to offer dark fibre if it is likely to cannibalise revenues from its existing retail or wholesale services.

Insufficiency of competition law

The Authority does not believe that competition law will be sufficient to intervene in these markets. This is because:

- detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour; and
- given the potential importance of the remedy in downstream markets, it is likely there could be considerable risk in relying on ex-post competition law, due to the time commonly required to conduct ex-post competition investigations and the dependency of Vodafone on these services to provide the relevant retail and backhaul services in all areas outside QNBN's and private developers' network coverage.

Given the above, the Authority concludes that Market M8b is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.4.3 Market analysis and Dominance Assessment

The previous MDDD concluded that in the market for wholesale physical network infrastructure access (M10) which included the provision of dark fibre, competition, or development to competition could not be identified. It therefore concluded that QTel (now Ooredoo) was dominant in the market. Since that time, QNBN has entered the market and developers now offer ducts

Preliminary assessment on competitive dynamics in this Relevant Market

The Authority concludes that Ooredoo is likely to be dominant in the market for the supply of dark fibre (M8b) for the following reasons.

Market shares and market concentration

As discussed above, taking into account self-supply and supply to third parties, Ooredoo remains the largest supplier of dark fibre. This is in line with the relative geographic scope of the current network infrastructure deployed by Ooredoo, QNBN and private developers.

Control over essential facilities and infrastructures

Ooredoo and QNBN have control over their networks; albeit QNBN's geographic network coverage remains limited. Ooredoo also has control over a network which could also support a significant volume of dark fibre services should it choose to offer such services. However, Ooredoo may not be incentivised to offer dark fibre where they compete with its retail and wholesale services.

Barriers to entry and/or expansion

There are significant barriers to entry and expansion in these markets (for the reasons set out above) as entrants have to undertake significant civil works in order to lay new fibre. On the other hand, Ooredoo still has a significant capacity to offer dark fibre, which could imply low barriers to expansion in this market. However, Ooredoo may not have an incentive to supply dark fibre to rivals in downstream markets. Therefore, the Authority does not consider the potential Ooredoo's spare capacity to be a competitive constraint applied to the market in general, since it may only be used for self-supply.

For these reasons the Authority concludes that there are significant barriers to entry and expansion in this market.

Countervailing Buyer Power

The main buyer of dark fibre in Qatar is currently Vodafone. The Authority has therefore considered whether Vodafone's position as a significant buyer affords it countervailing buyer power. In order for a buyer to exercise countervailing buyer power, it must be able to exert bargaining power over the supplier, for example by having a credible threat to switch demand to an alternative supplier or by deploying their own infrastructure. In the Authority's view, the fact that only Ooredoo currently has a national fibre network which could support point to point requests for dark fibre eliminates any possibility of a credible threat to move to a different provider.

The Authority considers that this means that Vodafone is not likely to be able to exercise countervailing buyer power as it would be unable to switch supply from Ooredoo for the following reasons:

- private developers are likely to roll-out only a limited amount of dark fibre which could be used only in specific circumstances (as fixed access backhaul to the development);
- QNBN has more limited dark fibre infrastructure in certain parts of Qatar; and
- other options (such as using fixed wireless links) may be more costly and of different quality.

Preliminary conclusion

The Authority has attempted to assess market shares to ascertain the degree of market power of participants. However, the market for dark fibre is relatively undeveloped, with relatively low demand from third parties, and the majority of lit fibre being self-supply of Ooredoo or the supply of fibre by QNBN.

Therefore when assessing the market structure in the supply of dark fibre the Authority does not place significant emphasis on the share of supply of dark fibre to third parties.

Instead, it considers the share of total available lit fibre (including self-supply), since this represents the share of all lines where dark fibre is used as an input. The Authority also considers the share of available dark fibre capacity (i.e. the volume of unlit fibre) since this reflects the ability of providers to supply third parties.

Based on its analysis the Authority has come to the preliminary view that Ooredoo is dominant in the supply of dark fibre (M8b). This is because:

- it has a high share of available dark fibre capacity, and a high share of total supply (including self-supply);
- there are very high barriers to entry and expansion; and

- Vodafone is unlikely to be able to exercise countervailing buyer power in the market for dark fibre.

7.5 Physical access to NSPs' ducts (M8c)

Below, the Authority has considered the market for physical access to ducts (M8c).

This market encompasses physical access to NSP's ducts, including relevant ancillary facilities/services and collocation space. Instead of either buying active wholesale products, or dark fibre products, an entrant could instead buy access to another operator's network of ducts. The NSP could then lay its own fibre over this network, provided there was sufficient space. In order to gain access to ducts, access seekers further require access to the land, building, trenches and joint boxes relevant to the access duct network. The access seeker will further require access to and space in the relevant collocation facilities, including, amongst others, switches and exchanges.

Duct access is used as an input into a number of downstream services. These include:

- Retail fixed voice and broadband services;
- Leased lines and corporate connectivity; and
- Mobile voice and broadband services (backhaul).

These markets again comprise of both self-supply and supply to third parties.

7.5.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.5.1.1 Current market structure and barriers to entry/expansion

The key suppliers of duct access to third parties in Qatar are Ooredoo, QNBN and private developers. However, given differences in network coverage, the geographic scope of the supply of duct access varies by supplier. In particular:

- Ooredoo operates the only duct network with national coverage in Qatar. As of 2014 its duct network comprised approximately ✂ km in total;
- QNBN has also deployed some very limited duct network, but mostly leases ducts from Ooredoo. As of August 2015, its duct network comprised ✂km in total; and
- Private developers who supply duct access are only able to supply these services in the limited geographic location of their developments (within which they are commonly the sole telecommunications infrastructure provider, with an obligation to provide non-discriminatory access to their network on reasonable terms) and these services will typically be used for the provision of fixed access or mobile backhaul from the exchange(s) to the boundary of the development (and / or from a cabinet to an exchange). The Authority currently does not hold information on the size of the duct network of private developers. However, given the overall limitation of their network coverage, the Authority expects this to be limited in scale.

The Authority understands that other utilities (such as Qatar General Electricity & Water Corporation (KAHRAMAA) are currently not renting ducts to NSPs.

7.5.1.2 Market shares

The market for the wholesale supply of duct is relatively undeveloped in Qatar. Therefore when assessing the market structure for duct access, the Authority notes it is relevant to consider available capacity, and self-supply.

The Authority understands that QNBN is currently the main buyer of duct access in Qatar, with Vodafone only acquiring a very limited amount of duct access (✂km) from developers and none from Ooredoo. **Table 9** sets out the duct supplied by Ooredoo. Given the above, Ooredoo remains the key supplier of duct access to third parties in Qatar, retaining a market share of close to ✂% of all ducts provided to third parties. This is without taking self-supply of duct into account. Taking into account the total duct length in Ooredoo's network of approximately ✂km (i.e. a measure of self-supply) and Ooredoo's high share of the total duct provided to other parties, indicates Ooredoo's pivotal position in this market (i.e., only Ooredoo could realistically be able to provide duct access to a third party).

The Authority further notes that private developers are subject to the Access Regulation and thus are required to publish a duct reference offer and to provide access to their ducts on a fair and non-discriminatory basis.

Table 9. Duct access supplied by Ooredoo to QNBN

	Q1 2014	Q1 2015
Duct access km	✂	✂
Revenues QAR 000s / quarter	✂	✂

Source: Ooredoo's response to information requests of 9 July 2015.

Given the above, the Authority preliminarily concludes that Ooredoo has the highest share of available duct capacity.

7.5.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Markets M8c remains susceptible to ex-ante regulation.

High and non-transitory barriers to entry or expansion

The Authority considers there are high barriers to entry and expansion in this market.

Entrants have to invest significant amounts in the civil works required to build the duct network infrastructure for providing both retail and wholesale services. Further, deploying a national duct network requires significant time and administrative effort.

While there are economies of scope available to developers who can plan the supply of duct into developments when they are built, these are only in limited geographic areas and at the specific times when developments occur.

No tendency to competition

Based on the data analysed, Ooredoo is the largest supplier of duct to third parties. Further, Ooredoo is likely to have the largest network of available capacity of duct (and the only network with national coverage), as well as the largest self-supply of duct in its own network (which should far exceed the limited amount of duct currently supplied by QNBN and developers to third parties in Qatar). Both these factors indicate that Ooredoo would be able to exploit market power, and that there is not a tendency to competition.

Insufficiency of competition law

The Authority does not believe that competition law will be sufficient to intervene in these markets. This is because:

- detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour; and
- given the potential importance of the remedy in downstream markets, it is likely there could be considerable risk in relying on ex-post competition law, due to the time commonly required to conduct ex-post competition investigations and the dependency of Vodafone on these services to provide the relevant retail and backhaul services in all areas outside QNBN's and private developers' network coverage.

Given the above, the Authority concludes that Market M8c is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.5.3 Market analysis and Dominance Assessment

The previous MDDD concluded that QTel (now Ooredoo) was dominant in the market for wholesale physical network infrastructure access (Market M10). Since that time, QNBN has entered the market and developers now also deploy their own ducts.

Preliminary assessment on competitive dynamics in this Relevant Market

The Authority concludes that Ooredoo is likely to be dominant in the market for the supply of duct (M8c) for the following reasons.

Market shares and market concentration

As discussed above, taking into account self-supply and supply to third parties, Ooredoo remains the largest supplier of duct. This is in line with the relative geographic scope of the current network infrastructure deployed by Ooredoo, QNBN and private developers.

Control over essential facilities and infrastructures

Ooredoo and QNBN have control over their networks; albeit QNBN's geographic network coverage remains limited. Ooredoo also has control over a network which could also support a significant volume of duct access services should it choose to offer such services. However, Ooredoo may not be incentivised to offer duct access where they compete with its retail and wholesale services.

Barriers to entry and/or expansion

There are significant barriers to entry and expansion in this market (for the reasons set out above) as entrants have to undertake significant civil works in order to deploy new duct. On the other hand, Ooredoo still has a significant capacity to offer duct access, which could imply low barriers to expansion in this market. However, Ooredoo may not have an incentive to supply duct access to rivals in downstream markets. Therefore, the Authority does not consider the potential Ooredoo's spare capacity to be a competitive constraint applied to the market in general, since it may only be used for self-supply.

For these reasons the Authority concludes that there are significant barriers to entry and expansion in this market.

Countervailing Buyer Power

The main buyer of duct access in Qatar is currently QNBN. The Authority has therefore considered whether its position as a significant buyer affords it countervailing buyer power. In order for a buyer to exercise countervailing buyer power, it must be able to exert bargaining power over the supplier, for example by having a credible threat to switch demand to an alternative supplier or by deploying their own infrastructure. In the Authority's view, the fact that only Ooredoo currently has a national duct network eliminates any possibility of a credible threat to move to a different provider.

The Authority considers that this means that QNBN is unlikely to be able to exercise countervailing buyer power as it would be unable to switch supply from Ooredoo.

Preliminary conclusion

The Authority has assessed market shares to ascertain the degree of market power of participants.

Based on its analysis the Authority has come to the preliminary view that Ooredoo is dominant in the supply of duct access (M8c). This is because:

- it has a high share of available duct capacity, and a high share of total supply (including self-supply);
- there are very high barriers to entry and expansion; and
- QNBN is unlikely to be able to exercise countervailing buyer power.

7.6 Functional access to international gateway facilities required to gain international connectivity (M8d)

Below, the Authority has considered the market for access to international gateway facilities required to gain international connectivity (M8d).

This market includes, but is not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services.

Access to international gateway facilities (such as, submarine cable landing stations, earth satellite stations or points of interconnections with terrestrial cables) is required to provide international voice, leased lines services and Internet access. Access to international gateway facilities constitutes access to existing landing stations for submarine and terrestrial cables to allow for collocation and access to capacity on the cables landing at these facilities. Given this, this sub market includes the physical access and ability to co-locate at existing cable landing stations.

7.6.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.6.1.1 Current market structure and barriers to entry/expansion

There are currently several international gateway facilities in Qatar owned and operated by Ooredoo and Vodafone respectively. Ooredoo has cable landing stations (CLS) at Sumaisma, Al Khisa, Al Wakra and Al Khor. It further has a point of interconnection to regional cables at Abu Samra and an earth satellite station at Mukaynis. Vodafone has its own CLS facilities based at Al Khor and access to a terrestrial cable to Saudi Arabia via the GCC Interconnection Authority. Vodafone owns and operates its CLS at Al Khor (to connect to the GBI cable supplying international access). In addition, Vodafone connects to a cable supplied by [GBI at Al Khor] which provides regional connectivity for regional access and redundancy purposes.

The two CLS at Al Khor therefore operate in tandem to provide connectivity to Vodafone and Ooredoo. Vodafone therefore relies on an element of Ooredoo's infrastructure for its International connectivity.

The following figure shows the situation of international connectivity in Qatar.

Figure 20**.** International connectivity in Qatar ✂

The Authority understands that the international connectivity (i.e. the number of CLS, the destinations and capacity available on each) at these international gateway facilities is adequate based on current needs and that both NSPs currently only use their own facilities for international connectivity

After Vodafone has built its own CLS with GBI there has also been no request in recent years by either NSP to gain access to the other NSP's international gateway facilities. As such, we understand that there is currently no demand for access to international gateway facilities beyond self-supply. Furthermore, the Authority notes that growing demand for data services will continue to increase demand for reliable and resilient international connectivity, and further international connectivity is scheduled as part of the development of Asia-Africa-Europe 1 (AAE-1) due in q4 2016.[36]

The Authority notes that setting up additional CLS and attracting international cables to land at these facilities is a resource and time intensive exercise and may not be feasible for any new entrant given the existing landing stations and cables and the overall market size in Qatar. As such, barriers to entry in this market are high.

7.6.1.2 Market shares

As there is currently no demand for, and supply of, third party access to international gateway facilities in Qatar, market shares will be entirely based on self-supply (i.e., the amount of capacity each NSP has at its own international gateway facilities).

The table below summaries the currently utilised spare and total international capacity available to both NSPs. This indicates that Ooredoo currently controls the vast majority of the overall utilised and spare capacity of both NSPs.

Table 10. Overview of current utilised and spare international capacity by NSPs

	Utilised	Spare	Total
Capacity			
Ooredoo	✂	✂	✂
Vodafone	✂	✂	✂
Total	✂	✂	✂
Market shares			
Ooredoo	✂	✂	✂
Vodafone	✂	✂	✂

Source: Ooredoo's and Vodafone's response to information requests of 9 July 2015

7.6.2 Application of the TCT to these Candidate Markets

[36] See Telegeography http://www.submarinecablemap.com/#/submarine-cable/asia-africa-europe-1-aae-1)

Based on the key relevant market trends and evidence presented above, the Authority preliminary concludes that the Market M8d is not susceptible to ex-ante regulation. In particular, the market is characterised by high and non-transitory barriers to entry and there is no competitive pressure on prices.

High and non-transitory barriers to entry

As set out above, this market is characterised by high barriers to entry (i.e., setting up additional landing stations and attracting international cables to land at these facilities is a resource and time intensive exercise).

However, the Authority notes that this market is currently based on self-supply only and it is not aware of either NSP facing any barriers to expansion at this point of time (i.e., both NSPs stated in their recent submission to the Authority that they have access to additional international capacity on top of their currently utilised capacity, if required).

No tendency to competition

Similar to the market of access to mobile sites (M8a) discussed above, the Authority considers that the market share of total available international capacity (including self-supply) to be the relevant measure of market share.

The Authority does not have historic data on the total available international capacity of each NSP. However, as shown above, Ooredoo currently holds the overwhelming part of the international capacity.

Insufficiency of competition law

In the absence of further market entry and self-supply remaining adequate, the Authority's view is that competition law will be sufficient to intervene in this market should any anti-competitive behaviour arise.

- While each NSP controls their own infrastructure, and currently has sufficient capacity, if the Authority licensed further entry into the Qatari market, entrants could seek access to either Vodafone or Ooredoo's CLS. However, Vodafone relies on access to Ooredoo's CLS to connect with the regional cable offered by GBI at Al-Khor. If either party had market power it potentially could attempt to foreclose entrants by refusing to supply access to the CLS.
- Therefore if the Authority licensed further entry, then entrants would need international capacity and may require access to CLS. If the Authority mandated access then it may also have to impose a detailed price control, to ensure that access was granted on reasonable price terms and conditions.

Given the above, the Authority concludes that Market M8d is susceptible to ex-ante regulation and so has conducted a competition assessment of this market. Its preliminary findings are presented below.

7.6.3 Market analysis and Dominance Assessment

The Previous MDDD analysis in 2008 found that Ooredoo (then QTel) was dominant in the market for "Network and Facilities access including access to transmission towers, sites of towers and underground facilities", since it was the only provider.[37] In the subsequent MDDD analysis in 2011[38] the CRA found that QTel (Ooredoo) was dominant in the market for Wholesale physical network infrastructure access (M10) (including access to and use of network and facilities such as ducts, dark fibre, copper, sites, towers, international gateway facilities and other facilities) .

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As stated in Section 4.5.1.2 above, Ooredoo currently controls the vast majority of access to international capacity originating in Qatar. Indeed, Vodafone relies on access to Ooredoo's CLS for the regional connectivity provided by GBI which provides it with regional access and redundancy.

Control over essential facilities and infrastructures

Ooredoo owns and controls access to key physical network infrastructure required to access international capacity. Whilst Vodafone also owns some international gateway facilities in Qatar, it remains dependent on access to Ooredoo's facilities for some of its connectivity. Ooredoo is therefore the only operator who owns and controls the entire infrastructure for the provision of multiple connections, which is necessary for resilience.

Barriers to entry and/or expansion

As stated in Section 4.5.1.1 above, there are high and non-transitory barriers to entry for providers of international gateway facilities and international connectivity, which constrain the likelihood of the market becoming competitive.

The Authority understands that Ooredoo has access to spare capacity on its international links (see table 10 above) which should limit the presence of barriers to expansion to it.

Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo has a dominant position in the market for access to international gateway facilities.

[37] See: http://cra.gov.qa/sites/default/files/documents/MDDD_NoticeOrders.pdf
[38] See: http://www.cra.gov.qa/sites/default/files/documents/MDD_Notice_English.pdf

7.7 Wholesale broadband access at a fixed location (M9)

Below, the Authority has considered the market for wholesale broadband access at a fixed location (M9). Wholesale broadband services may be provided in form of a wholesale access service (generically, VULA, Virtual Unbundling of the Local Access) or in form of an active wholesale access service (generically, Bitstream). For example, a bitstream service is currently provided at The Pearl Qatar (**TPQ**). See Annex II for further details.

Wholesale broadband access is an input for providing retail fixed voice and broadband services, covered in Market M1 above.

In general, the active access option (Bitstream) requires less investment by the access seeker than the passive access options (VULA). The active access option includes both the access link to the end-user and some form of backhaul capacity. However, compared to the passive products, an access seeker taking the active products is less able to differentiate its retail services from those offered by the vertically integrated access provider. This market again includes supply to third parties and self-supply.[39]

7.7.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.7.1.1 Current market structure and barriers to entry/expansion

Wholesale broadband access at a fixed location is offered exclusively by Ooredoo, which owns and controls the key physical network necessary to deliver these services. The Authority understands that with the exception of TPQ (where Vodafone purchases this service from Ooredoo) this service is currently for self-supply only.

A fundamental entry barrier in this market is the high cost of building an alternative fixed network infrastructure. However, the Authority notes that these barriers may be lessened if certain passive infrastructure access products are available.

7.7.1.2 Market shares

Ooredoo is the only supplier in this market, thus having a market share of ✂% (including self-supply).

7.7.1.3 Price trends and pricing behaviour

The Authority currently holds no information on the prices in this market. This is because these charges are currently not regulated and based on a bilateral arrangement between Vodafone and Ooredoo for bitstream access at the Pearl Qatar (i.e., they are not publicly available).

7.7.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that Market M9 remains susceptible to ex-ante regulation. In particular, the market is characterised by high and non-transitory barriers to entry. In addition, the market is fully concentrated and there is no competitive pressure on prices. Finally, competition law

[39] If a NSP operator uses a wholesale broadband service to provide a voice service, then the operator will also have to purchase termination services for other networks where calls are terminated.

may not be sufficient in this market to remedy any anti-competitive behaviour, given the potentially complex and enduring nature of any potential anti-competitive behaviour.

High and non-transitory barriers to entry

The Authority considers that there are high and non-transitory barriers to entry for providers of wholesale broadband access at a fixed location. A key barrier is the high level of costs required to build a competing national fixed network infrastructure. In particular, the sunk costs that Ooredoo has already invested in its ubiquitous fixed network represent a significant barrier for further entry.

Furthermore, the licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has considered whether the market for wholesale broadband access at a fixed location has a tendency to competition. In doing so, it has considered market shares, price trends, the existence of barriers to expansion, and the potential control of infrastructure that is not easily duplicated.

- Market shares. As shown in Section 7.7.1.2 above, Ooredoo has retained a market share of ✂%.
- Price trends. Pricing in this market is not available. However, with the limited exception of the Bitstream offered to Vodafone at The Pearl, it reflects self-supply and is therefore not influenced by competitive market dynamics.
- Control of bottleneck infrastructure. Ooredoo is in control of the only national fixed access and core network required to provide wholesale broadband access at a fixed location in Qatar.
- Barriers to expansion. Given the limited existing alternative fixed network infrastructure to that of Ooredoo, and the high costs of deploying such infrastructure, the Authority considers there to be significant barriers to expansion into this market for all other NSPs.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour in this market.

Given that Ooredoo controls the only national fixed infrastructure, necessary regulation includes ensuring that retail broadband providers have access to this network. In the absence of ex-ante regulation, there is a significant risk of Ooredoo refusing to supply such access, or only providing such access on unreasonable terms.

Given the above, the Authority concludes that Market M9 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.7.3 Market analysis and Dominance Assessment

Previous MDDD analysis in 2011 found Ooredoo to be dominant in the market for wholesale broadband access at a fixed location.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As stated in Section 7.7.1.2 above, Ooredoo is the only provider, with ✂% of the market.

Control over essential facilities and infrastructures

Ooredoo owns and controls access to the only key physical network infrastructure used to provide wholesale broadband access at a fixed location.

Barriers to entry and/or expansion

As stated in Section 7.7.2 above, there are high and non-transitory barriers to entry for providers of wholesale broadband services at a fixed location, which constrain the likelihood of the market becoming competitive.

The Authority is not aware of any barriers to expansion for Ooredoo.

Countervailing Buyer Power

Vodafone is the only purchaser of the wholesale broadband services at a fixed location.

As mentioned above, in order for a buyer to exercise countervailing buyer power they must be able to exert bargaining power over the supplier, for example by having a credible threat to switch its demand to an alternative supplier or to deploy its own infrastructure. In the Authority's view the fact that only Ooredoo currently has the network infrastructure to provide wholesale broadband access services on a national level eliminates any possibility of a credible threat to move to a different provider. The Authority considers that this means that Vodafone is unlikely to be able to exercise countervailing buyer power as it would be unable to switch supply from Ooredoo.

Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo has a dominant position in the market for wholesale broadband services at a fixed location.

7.8 National trunk segment of (national and international) wholesale leased lines services (M10)

Below, the Authority has considered the market for the national trunk segment of (national and international) wholesale leased lines services (M10).

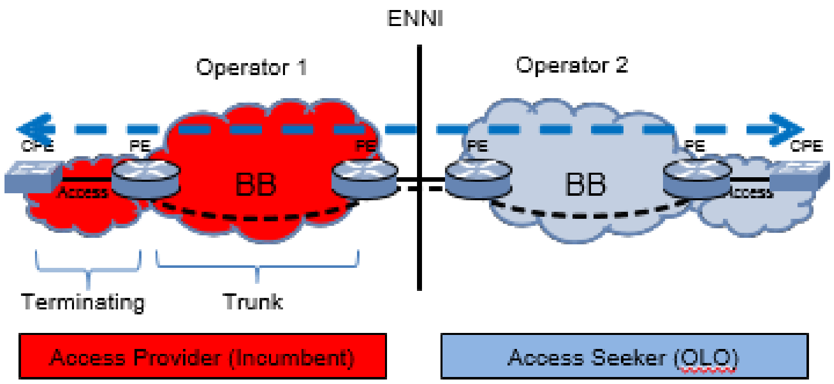
This market contains typically trunk (i.e., core network) segments of leased lines used to transfer data over national routes and between the major urban centres where businesses are concentrated. Annex II contains a more detailed list of products.

The definition of these services is technology neutral and includes any technology (e.g. SDH and Ethernet). The definition is “any to any point”, including, for example, trunks terminating at network locations and at end-customer locations alike.

National trunk segment of wholesale leased lines transport the data between two (or more) PoPs of the Access Provider. The Access Seeker interconnects with the network of the Access Provider at the designated Point of Interconnection for providing the Retail services at the end-customer.

The graphic below provides an example of the trunk segment.

Figure 21. Market shares – Wholesale fixed call origination, Q1 2011 – Q2 2015



The trunk can be used for a number of purposes, including but not limited to:

- For connecting two Network Sites [40](: e.g. connecting two exchanges for interconnection / transmission purposes or mobile sites for backhaul.
- A network site and a retail-customers site. This can include an MSC and e.g. the server room of a bank.
- For the transit between a NSP’s PoP located in Qatar and an international gateway located in Qatar (where the trunk section may include physical access to a Cable Landing Station and a cross connect to an international connectivity provider’s POP).

7.8.1 Key market trends and evidence considered

[40] This includes physical and virtual dedicated capacity services.

In assessing this market, the Authority considered the below evidence.

7.8.1.1 Current market structure and barriers to entry/expansion

During the consultation, the Authority asked the SPs to provide geo-referenced data on their network infrastructure on Google Maps or equivalent software.

Ooredoo only provided a diagram in Acrobat format with the name / location of the nodes in a separate word document. The Authority merged the two sets of information.

According to the data submitted, the Authority understands that Ooredoo owns and operates the only nationwide network in Qatar. This is relevant because demand for leased lines from the retail business connectivity markets often requires businesses to connect their sites across the country. Alternative NSPs to Ooredoo are likely to locate their trunk nodes first in the most concentrated population centres where their customer (end-user) base is largest. Progressively, as they gain more customers they might wish to locate more than one PoP in a particular area thereby reducing further their reliance on Ooredoo. The need for aggregation means that an alternative Service Provider's build decision was not centred on the location of a single end-user. Clearly, if it were efficient to do so, an alternative Service Provider would want to pick-up traffic from its retail customers close to the customer. However, building out network would entail significant sunk costs and this often means that an alternative Service Provider would need to generate economies of scale (and/or scope) to make investment in trunk (or backhaul) at a POP closer to its customers worthwhile.

The Authority considered also the network data provided by Vodafone. Vodafone's core network is made of only ✂km of fibre. This has been designed for serving mobile customers and limits Vodafone's capability to offer retail leased lines nationwide (see section 6.3 on Retail Leased Lines).

The Authority is aware that core network infrastructure appears more replicable than a fixed access network, especially if there is regulation in the related upstream markets ensuring access to ducts or dark fibre. As such, the Authority considers there may be lower barriers to entry in this market, compared to entry in the Markets for Civil Infrastructure (i.e. M8) or Wholesale Broadband Access services (M9).

However, in the time period considered for this analysis, the Authority does not foresee that alternative SPs would be able to build a core network sufficient to offer Retail Leased Lines nationwide.

7.8.1.2 Market shares

Ooredoo currently remains the only nationwide provider of the trunk segment of wholesale leased line services in Qatar.

7.8.1.3 Price trends and pricing behaviour

Prices in the market for wholesale leased lines are fully regulated (i.e. interconnection links and transmission links). Therefore, any recent trends are reflective of regulation rather than competitive market dynamics.

7.8.2 Application of the TCT to this Candidate Market

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M10 remains susceptible to ex-ante regulation. Whilst the market exhibits relatively lower barriers to entry and infrastructure-based competition may be emerging, the Authority considers it too early to remove ex-ante regulation in this market.

High and non-transitory barriers to entry

The Authority is aware that currently Ooredoo is the only provider in this market.

As mentioned above, the Authority considers the NGN core network infrastructure to be more replicable, especially given the geography in Qatar. It further observes that Vodafone has deployed such core network across the country. However, as set out above, this network is unlikely to be sufficient to deliver nationwide the trunk segments of retail leased lines.

No tendency to competition

Ooredoo currently remains in control of the only national core network required to provide this service in Qatar, with Vodafone deploying its own narrow core network infrastructure in Qatar. However, given the prevailing uncertainty on the timing of the alternative network becoming available and thus, the any infrastructure-based competition emerging, the Authority preliminarily concludes that this market may be unlikely to tend towards competition within the timeframe considered as part of this MDDD update. However, in the time period of this analysis, the Authority does not foresee that alternative SPs would be able to build a core network sufficient to offer retail leased lines nationwide.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour in this market.

Given that Ooredoo is currently the only SP offering retail leased lines nationwide, regulation at wholesale level is necessary to ensure that retail leased line providers have the possibility to compete with Ooredoo. In the absence of ex-ante regulation there is a significant risk of Ooredoo refusing to supply such access, or only providing such access on unreasonable terms.

Given the above, the Authority concludes that Market M10 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.8.3 Market analysis and Dominance Assessment

The previous MDDD analysis in 2011 found Ooredoo to be dominant in the market for wholesale leased line services.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

Ooredoo is currently the only provider able to offer retail leased lines nationwide. From Ooredoo RAS 2014 data and information submitted by the Service Providers within the MDDD proceeding, the Authority sees that Ooredoo has almost ✂% of the market in terms of fibre km of core network infrastructure.

Control over essential facilities and infrastructures

Ooredoo owns and controls access to a key physical network infrastructure used to provide retail leased line services nationwide in Qatar.

Barriers to entry and/or expansion

As stated above, the Authority considers there to be lower barriers to entry in this market than in most other wholesale markets. This is due to the core network infrastructure appearing more replicable than a fixed access network, assuming that access to ducts or dark fibre in the core network is granted.

However, in the timeframe of this analysis, the Authority does not foresee that alternative NSPs would be able to build a core network sufficient to offer retail leased lines nationwide. Whilst Vodafone is in the process of extending its own core network infrastructure, it remains unclear when this may be operational.

Countervailing Buyer Power

If Ooredoo supplied to large or important buyers, who could credibly threaten to switch supply or to sponsor entry, then this threat may be sufficient to constrain the ability to exercise market power. However, Vodafone has, currently, no credible alternative source of supply on a national basis (i.e. due to the limited coverage of its own fibre network and QNBN’s passive infrastructure). As such, there is no countervailing buyer power in the market.

7.8.3.1 Preliminary conclusion

Given the above evidence, the Authority has come to the preliminary view that Ooredoo has a dominant position in this market. However, the Authority will review this position once an alternative core network sufficient in scale to support nationwide, the provision of the trunk segment of retail leased lines has been deployed and competition is emerging.

7.9 Terminating segment of wholesale leased lines services (M11)

Below the Authority has considered the market for terminating segments of wholesale leased lines services (M11).

This market contains typically terminating segments to provide the connectivity from end-user or network sites into core networks (at the POP designated as POI of the trunk services).

The definition of these services is technology neutral and includes any technology (e.g. SDH and Ethernet). The definition is "any to any point", including e.g. network locations and end-customer locations alike.

This market contains the part of the leased line (or dedicated capacity) service) from the customer location to the trunk segment and logically corresponds to the local access part of the fixed network (i.e. there are two terminating segments in national leased lines and one national terminating segment in international leased line services).[41]

Terminating segments of wholesale leased lines can be used for a number of purposes, including but not limited to:

- Connecting a network site (including mobile site) and a retail-customer's site. This can include an MSC and e.g. the server room of a bank.
- For terminating a leased line at an international gateway located in Qatar (where the trunk section may include physical access to a Cable Landing Station and a cross connect to an international connectivity provider's POP).

7.9.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.9.1.1 Current market structure and barriers to entry/expansion

Ooredoo currently operates the only nationwide fixed access network in Qatar which is used to deliver the terminating segments of leased lines services.

Deploying a national fixed access network requires significant investment, time and administrative effort. It remains unclear whether a second national fixed access network, relying on its own infrastructure rollout, would be viable in Qatar. Even if it is viable, it appears unlikely that such a network would be deployed within the next three years (i.e., the timeframe considered in this MDDD update). However, the Authority notes that these barriers may be lessened if certain active infrastructure access products are available. However, it is unlikely that a Service Provider will replicate Ooredoo's access network within 3 years., especially given the resistance of Ooredoo to publish and to make available to the OLOs the necessary wholesale inputs (such as access to ducts) under the RIAO approved by the Authority in November 2015 (cf. Order CRA 2015/11/25).

Given this, the Authority considers there to be high barriers to entry in this market.

7.9.1.2 Market shares

Including self-supply, Ooredoo currently remains the only provider of the terminating segment of wholesale leased line services in Qatar.

41 This includes single and multipoint termination services and physical and virtual dedicated capacity services.

7.9.1.3 Price trends and pricing behaviour

Prices in the market for wholesale leased lines are fully regulated. Therefore, any recent trends are reflective of regulation rather than competitive market dynamics.

7.9.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that the Market M11 remains susceptible to ex-ante regulation. In particular, the market exhibits high and non-transitory barriers to entry. Ooredoo remains the sole provider and there is no competitive pressure on prices. Finally, competition law may not be sufficient in this market as the high market concentration creates risk of excessive pricing behaviour.

High and non-transitory barriers to entry

The Authority considers that there are high and non-transitory barriers to entry for providers of wholesale leased lines services. A key barrier is the high level of costs required to build a competing national fixed access network infrastructure. In particular, the sunk costs that Ooredoo has already invested in its ubiquitous fixed access network represent a significant barrier for further entry. However, these barriers may be lessened if certain passive infrastructure access products are available.

Furthermore, the licensing arrangements in Qatar may provide an additional barrier to entry. Telecommunications providers in Qatar are required to be licenced by the Authority subject to the Minister's advice.

No tendency to competition

The Authority has considered whether this market is tending towards competition. In doing so, it has considered market shares, price trends, the existence of barriers to expansion, and the potential control of infrastructure not easily duplicated.

- Market shares. Ooredoo remains the sole (self) provider of these services, with a market share of ✂%.
- Price trends. Pricing of these services are subject to regulation and are therefore not influenced by competitive market dynamics.
- Control of bottleneck infrastructure. Ooredoo remains in control of the only nationwide fixed access network required to provide this service in Qatar. Whilst QNBN has also deployed network infrastructure, this is currently limited to certain locations within Qatar.

Based on the above evidence the Authority concludes that this market will not tend towards competition in the timeframe considered as part of this MDDD update.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour in this market.

Given that Ooredoo currently controls the only nationwide fixed access network infrastructure, regulation is necessary to ensure that retail leased line providers have access to the terminating segment. In absence of the relevant wholesale offers, there is a significant risk of not having these services available in the market.

Given the above, the Authority concludes that Market M11 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.9.3 Market analysis and Dominance Assessment

The previous MDDD analysis in 2010/11 found Ooredoo to be dominant in the wholesale leased lines market.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

As stated above, Ooredoo is the sole provider in the market, thus having a ✂% share.

Control over essential facilities and infrastructures

Ooredoo owns and controls the only nationwide fixed access network infrastructure used to provide the terminating leg of wholesale leased lines services.

Barriers to entry and/or expansion

As stated above, there are high and non-transitory barriers to entry in this market, which put constraints on the extent to which the market will tend towards competition.

Countervailing Buyer Power

As mentioned above, Vodafone is the only purchaser of the wholesale leased lines. However, Ooredoo is not dependant in any way on anyone purchasing leased lines access, whilst Vodafone has no credible alternative source of supply on a nationwide basis (given QNBN’s limited network coverage). As such, there is no countervailing buyer power in the market.

Preliminary conclusion

The Authority has come to the preliminary view that Ooredoo has a dominant position in market M11.

7.10 International transit segment of international wholesale leased lines services (M12)

Below the Authority has considered the market for the international transit segment of wholesale leased lines services (M12).

This market contains typically leased lines used to transfer data from/to destinations outside of Qatar. Annex II contains a more detailed list of products.

This market covers the transit capacity from the International Gateway Facility (IGF) to the PoP of the service provider offering the terminating segment of the international leased line outside Qatar.

7.10.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.10.1.1 Current market structure and barriers to entry/expansion

The international transit segment of wholesale leased lines services can be provided by any party that has a PoP in Qatar and access to international connectivity/capacity.

Whilst there are high barriers to entry to the international capacity market (see discussion above in the context of international gateway facilities), both Vodafone and Ooredoo currently have access to sufficient international capacity to meet their own demand.

The Authority further understands that in addition to Vodafone and Ooredoo, there are currently several international and regional international service providers that have established a PoP in Qatar and are therefore theoretically able to participate in this market. The Authority understands that these non-Qatari service providers negotiate access to Ooredoo's network facilities on a commercial basis and operate under Ooredoo's license for the sole provision of services to Ooredoo. If correct, this could impact their ability to effectively compete with Ooredoo in the Qatari market. However, the Authority is not aware of any alleged anti-competitive behaviour in this market to date.

The Authority has no information on whether these international service providers actively participate in this market or on the international capacity available to them. As such, it is currently not in a position to determine market shares in this market. However, since hosted at a NSP's network facility on non-regulated terms, there is a degree of dependency on the relevant NSP hosting that provider. This could enable the NSP to restrict that provider's ability to effectively compete in this market by limiting access to the Qatari market.

7.10.1.2 Market shares

As mentioned above, the Authority currently does not hold evidenced information to derive market shares.

7.10.1.3 Price trends and pricing behaviour

The Authority currently holds no information on the prices in this market. This is because these charges are currently not regulated and commonly based on bespoke commercial offerings (i.e., they are not publicly available).

7.10.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminary concludes that Market M12 is not susceptible to ex-ante regulation. In particular, this is because, despite prevailing high barriers to entry, there appear to be several providers in the market. Whilst the Authority does not hold market share information for this market, the presence of these multiple providers is likely to result in a tendency to competition within this market or to impose a competitive constraint on NSPs. Further none of the NSPs rely on others to supply their product.

High and non-transitory barriers to entry

As explained above, there are barriers to entry into the market for the international transit segment of international wholesale leased lines services.

However, despite these entry barriers, the Authority notes that there appear to be several providers in the market, including both NSPs which self-supply.

As such, the Authority considers the prevailing barriers to entry to be of less concern in this market.

Tendency to competition

Vodafone and Ooredoo both (self) supply these wholesale services using their own infrastructures. The Authority is not aware of any barriers to expansion for either NSP. As such, each NSP could expand capacity to cater for demand currently being met by their rivals with minimal incremental investment (i.e., there appear to low barriers to expansion).

Whilst the Authority does not hold market share information for this market, the presence of multiple providers (beyond Ooredoo and Vodafone) is likely to result in a tendency to competition within this market or to impose a competitive constraint on NSPs.[42]

Sufficiency of competition law

The Authority's view is that competition law will be sufficient to intervene in this market should any anti-competitive behaviour arise.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since both NSPs operate their own infrastructures hence access remedies would not be required;
- furthermore, the competition law tests which assess anti-competitive behaviour are sufficient to assess behaviour of market participants; and
- It is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since each NSP controls their own infrastructures.

Given the above, the Authority does not consider Market M12 to constitute a Relevant Market.

[42] As noted above, the Authority considers Ooredoo to potentially have the ability to influence the other service providers' ability to compete effectively in the Qatari market. However, it is not aware of any such behavior to date.

7.11 Wholesale access and origination on public mobile networks (M13)

Below, the Authority has considered the market for wholesale access and origination on public mobile networks (M13).

This market captures all access and origination services (i.e. this includes, but is not limited to voice calls, SMS, MMS, video calls and packet data) on Ooredoo's and Vodafone's mobile networks, including self-supply. See Annex II for further details.

7.11.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.11.1.1 Current market structure and barriers to entry/expansion

Both Vodafone and Ooredoo own the required network infrastructure to provide wholesale access and origination services in Qatar. The Authority understands that there is currently no demand for these services, beyond self-supply.

Key barriers to entering this market are the high costs of deploying an additional national mobile network infrastructure, gaining access to mobile spectrum, and acquiring a licence to provide mobile services.

7.11.1.2 Market shares

As this wholesale market is currently used for self-supply only, the market shares broadly reflect those of both NSPs in the relevant retail markets discussed in Section 6.1 above). In particular, as illustrated in the graph below, Ooredoo has retained a market share of close to ✂% of total mobile accesses and originating call traffic.

Figure 22. Market shares – Wholesale mobile accesses and call origination traffic, Q1 2011 – Q2 2015
✂

Mobile access shares

Mobile call origination traffic shares

7.11.1.3 Price trends and pricing behaviour

As this market remains for self-supply only so far, there is no price for wholesale call access and origination services on mobile networks at this point in time.

7.11.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that Market M13 is not susceptible to ex-ante regulation. In particular, this is because, despite high barriers to entry, there is a tendency to competition in the market which is illustrated by Vodafone's successful entry and expansion in the Qatari mobile market. Finally, the Authority considers that ex-post competition is likely to be sufficient in this market (given the current market structure) to resolve any concerns. In particular, there is already a degree of competition in the market, and neither SP relies to a significant degree on the infrastructure of the other. Therefore, given there is a degree of competition, there are no significant barriers to expansion, and (based on the current market structure) access remedies (which could require detailed price controls) are unnecessary. .

High and non-transitory barriers to entry

As explained above, there are barriers to entry for the provision of mobile wholesale call access and origination services which relate to the sunk costs in investing in mobile network infrastructure, access to mobile spectrum and potential licensing barriers. The scale of investments needed to enter the markets may limit the scope for entry.

Therefore the Authority concludes that there are high barriers to entry in the market for mobile business services. However, the Authority considers this to be of less concern, given the existence of two competing national networks.

Tendency to competition

Vodafone and Ooredoo both (self) supply wholesale call access and origination services, using their own infrastructure. The Authority is not aware of any barriers to expansion for either NSP (i.e. in terms of allocated spectrum, access to mobile sites, backhaul[43] and other facilities). As such, each NSP could, to a certain point, expand capacity to cater for demand currently being met by their rivals with little incremental investment (i.e., there appear to low barriers to expansion).

However, while there are relatively low barriers to expansion, there may be more significant barriers to entry, since an entrant would need to build a network with wide population coverage and so would need to build a network of cells, which would take time and require significant level of investment.

The Authority has further examined evidence on market share to assess the extent to which the market is tending to competition. As mentioned above, as this wholesale market is currently used for self-supply only, the market shares reflect those of both NSPs in the relevant retail mobile markets, where the Authority concluded that those markets were tending to competition. As such, by extension, the Authority also considers that this market is tending towards competition, in the context that it is self-supply. Were the Authority to permit further entry or change the licence conditions (for example if it required an entrant MVNO to purchase wholesale access and origination from a specific SP), it may need to revisit its conclusions if the competitive conditions in the market are affected.

Sufficiency of competition law

The Authority's view is that competition law will be sufficient to intervene in this market should any anti-competitive behaviour arise.

- The Authority does not expect that detailed remedies (such as detailed price controls) would be necessary in this market to prevent anti-competitive behaviour, since there is a degree of competition in the market (notwithstanding that the Authority has not assessed whether any supplier is dominant). Nor would it expect to intervene on a frequent basis since the two mobile operators operate their own infrastructures hence access remedies would not be required;
- furthermore, the competition law tests which assess anti-competitive behaviour are sufficient to assess behaviour of market participants;
- it is unlikely that an instance of anti-competitive behaviour would lead to irreparable damage since each NSP controls their own infrastructures; and

[43] The Authority notes that mobile backhaul may become a barrier to expansion for Vodafone, since requiring access to fibre links. However, the proposed remedies on wholesale leased lines and duct access should allow Vodafone to secure mobile backhaul capacity.

- The presence of two competing mobile infrastructures suggests that using ex-ante remedies powers would not be needed to enable the long-term development of competition in the market, as the market is already tending to competition.

Given the above, the Authority concludes that Market M13 is not a Relevant Market and so has not considered this market further as part of this MDDD update. However, should demand for this service appear, for instance if the Minister of ICT decides to introduce service based competition or the Authority is directed to by a policy decision then the Authority may revisit this market.

7.12 Wholesale termination on individual mobile networks (M14)

Below, the Authority has considered the market for wholesale termination on individual mobile networks (M14).

This market typically contains all call, SMS, MMS and data termination services on mobile devices, independent of the technology used to deliver these services. See Annex II for further details.

As discussed in the context of fixed call termination (M7) above, the Authority notes that given the scope of this market (i.e., termination on individual mobile networks), it is common for each operator to be found to be dominant in the market for termination services on its own mobile network.

7.12.1 Key market trends and evidence considered

In assessing this market, the Authority considered the below evidence.

7.12.1.1 Current market structure and barriers to entry/expansion

Wholesale call termination on individual mobile networks is offered by Ooredoo and Vodafone for termination on their own networks. Both operators own and control the physical networks necessary to deliver these services for calls that end on their network. Therefore, there is effectively a market for termination on each network.

7.12.1.2 Market shares

Vodafone and Ooredoo both have ✂% market share for termination on their own mobile networks.

7.12.1.3 Price trends and pricing behaviour

Prices in the market for wholesale call termination on mobile networks are fully regulated. This means that any recent trends reflect regulatory decisions rather than competitive market dynamics.

7.12.2 Application of the TCT to these Candidate Markets

Based on the key relevant market trends and evidence presented above, the Authority preliminarily concludes that Market M14 remains susceptible to ex-ante regulation. In particular, the market remains characterised by high and non-transitory barriers to entry. The market for termination on each network is fully concentrated and there is no competitive pressure on prices. Finally, competition law may not be sufficient in this market as each network operator does not face a direct competitor for termination on their network.

High and non-transitory barriers to entry

Given the scope of this market (i.e., termination on individual mobile networks), the concept of barriers to entry does not apply (i.e. further entry is technically not possible).[44] However, the

[44] The Authority further notes that whilst OTT-based call services could theoretically act as a substitute for these services, this is not relevant in this context as OTT-based call services were excluded from the relevant retail market definitions (since not being considered to be adequate substitutes for "traditional" mobile call services on a retail level). Given this, OTT-based services also do not form part of the call termination market.

Authority notes that there are barriers to expansion for other NSPs to enter into the relevant call termination market on the other NSP's network.

No tendency to competition

The Authority has considered whether the market for wholesale call termination on individual mobile networks has a tendency to competition. In doing so, it has considered market shares, price trends, the existence of barriers to expansion, and the potential control of infrastructure not easily duplicated.

- Market shares. As shown above, Ooredoo has a market share of [redacted]% for termination on their mobile network. Vodafone has a market share of [redacted]% for termination on their mobile network.
- Price trends Pricing in this market is subject to regulation and is therefore not influenced by competitive market dynamics.
- Control of bottleneck infrastructure. Both operators have a mobile infrastructure network that is a bottleneck for termination of calls to end consumers using their network.
- Barriers to expansion. Ooredoo and Vodafone do not face barriers to expansion.

Insufficiency of competition law

The Authority concludes that competition law is not sufficient to investigate and remedy anti-competitive behaviour in this market.

Given that each operator controls the mobile infrastructure for termination of calls on its own network, necessary regulation includes ensuring each operator offers call termination on their network to other players.

Further context for ex-ante regulation is created by the fact that both Ooredoo and Vodafone could use their control over their network to engage in excessive pricing behaviour, with the aim of harming competitors in the retail market or for collusive purposes at the expense of customers. As such, price control regulation mechanisms are necessary in this market.

Given the above, the Authority concludes that Market M14 is a Relevant Market and so has conducted a competition assessment of the market. Its preliminary findings are presented below.

7.12.3 Market analysis and Dominance Assessment

The previous MDDD analysis in 2010/11 found Ooredoo to be dominant in the market for wholesale call termination on their mobile network and Vodafone to be dominant in the market for wholesale call termination on their mobile network.

Preliminary assessment on competitive dynamics in this Relevant Market

Market shares and market concentration

Ooredoo and Vodafone have retained market shares of [redacted]% on each of their individual mobile networks.

Control over essential facilities and infrastructures

Both operators have a mobile infrastructure network that is a bottleneck for termination of calls to end consumers using this network. Each operator has full control over their own network infrastructure.

Barriers to entry and/or expansion

As stated in Section 4.11.2 above, whilst the concept of barriers to entry does not apply, there are barriers to expansion for other NSPs to enter into the relevant call termination market on the other NSP's network.

Countervailing Buyer Power

Buyers in this market do not have sufficient countervailing buyer power to curtail the exercise of market power by the sole operator.

Preliminary conclusion

The Authority has come to the preliminary view that Ooredoo is dominant in the market for wholesale call termination their mobile network and Vodafone is dominant in the market for wholesale call termination on their mobile network.

8 Ex-ante regulatory remedies

8.1 Applicable ex-ante regulatory remedies for DSPs

This Section briefly sets out the ex-ante regulatory remedies imposed on DSPs in each of the Relevant Markets resulting from the preliminary findings set out in Section 3.

In general, where NSPs are designated as a DSP in any Relevant Markets this implies that they will be subject to specific provisions that are now, or may in the future be included, in the Telecommunications Law ("Telecoms Law), the Executive By-Law ("By-Law)", related regulations, rules, orders, notices, decisions and instructions, and the telecommunications licence issued. These documents together define the obligations applicable to SPs in the markets in which they are deemed to be DSP.

The Authority may impose additional obligations to DSPs in certain Relevant Markets where it is likely that these standard/ automatic obligations are not sufficient to prevent an abuse of dominance or may be needed to prevent market failure or prevent outcomes that are not in the public interest and which will enable effective competition to emerge.

The following tables set out the obligations, or ex-ante regulatory remedies, which apply either automatically or when they are imposed by the Authority on DSPs.

Table 11 below contains those obligations, which apply automatically to all DSPs.

Table 11. Obligations, which apply automatically to DSPs

Service provisioning
Granting of interconnection and access to access seekers, whenever technically feasible, on a non-discriminatory basis (Art. 18 and 24, Telecoms Law)
Provision of facilities and services to wholesale customers in accordance with the pricing, interconnection, access collocation, site sharing, roaming, way-leave, coordination, quality of service and other obligations prescribed by the applicable regulatory framework (Art. 11, Licence)
Tariff approval requirements
Tariff submission and pre-approval requirements (Art. 28 of the Telecoms Law; Art.3 Annexure D of Licence[45]),
Reference offers and wholesale agreements
Preparation, update and publication of reference offers for interconnection services (Art. 51 of By-Law)
Filing of interconnection and access agreements to the Authority (Art. 52 of By-Law)

[45] Unless the competitive market forces are solely capable of protecting the interests of customers and have eliminated the harmful threat to competition

Requirements for interconnection and access agreements (Art. 49 of By-Law): • Non-discriminatory treatment of other SPs regarding interconnection or facilities access; • Provision of interconnection and facilities access to all SPs under substantially the same conditions and quality as DSP provides for own service provision; • Making available all necessary or reasonably required information for interconnection or facilities access; • Use of information received from a SP seeking interconnection or facilities access only for the purposes for which it was supplied
Information disclosure
Disclosure of Network Technical Information (No 2., Annexure I of Licence)
Additional requirements
Obligation on Cost Accounting and Accounting Separation (Art. 33 of the Telecoms Law).
Meeting requests regarding interconnection and access which relate to DSP's charges or calculation of costs or the requirements of accounting separation (Art. 18 of Telecoms Law)
No excessive fees (Art. 29 of Telecoms Law)
Prohibition of abuse of dominance (Art. 41 and 43 of Telecoms Law; Art. 75 of the By-Law; and Annexure I of Licence)[46]

[46] This includes , amongst others, the requirement to avoid exclusionary conduct, forebear from tying if it leads to an abuse of a dominant position, avoid anti-competitive discounts, refrain from anti-competitive refusals to supply, avoid predatory/below cost pricing, avoid cross-subsidisation, avoid price-squeezing and predatory network alteration, refrain from monopolising the use of scarce facilities and resources and performing any actions that have the effect of substantially lessening competition in any telecommunications market.

Table 12 below contains those obligations, which may be imposed additionally by Authority upon DSPs.

Table 12. Obligations, which can be applied to DSPs

Accounting separation and costing
Adopt identified cost accounting practices to facilitate cost studies or to achieve any other regulatory purpose (Art. 59 of the By-Law)
Preparation or participation in the development of a cost study for the purpose of determining the costs of providing different types of telecommunications services or the business activities of the DSP (Art. 59 of the By-Law)
Tariff regulation
Tariff regulation (Art. 27 of the Telecoms Law)
Requirements for interconnection and facilities access charges to be cost based, in line with any rules set by the Authority (Art. 50 of the By-Law)
Additional requirements
Requirement to divest of some lines of business (Art. 76 of the By-Law)
Pre-approval requirement of transfer of control of DSP (Art. 78 of the By-Law)

8.2 Proposed remedies on DSPs

Below the Authority sets out the remedies it proposes to enforce on DSPs in each market. For the avoidance of doubt these remedies are in addition to any obligations, automatically applied to DSPs (as set out in Table 12 above) and other regulatory obligations imposed on NSPs unrelated to dominance (such as, mobile site sharing, open access requirements and regular reporting requirements to the Authority).

In line with the current ex-ante remedies, these remedies include:

Regular reporting requirements

The requirements for all SPs to provide to the Authority on a quarterly basis, operational and financial data for each market considered as part of this MDDD update. Data requirements will be specified at the time of the Final Decision.

Retail Tariff (RTI)

The requirements for a SP for tariff approval are governed by the Retail Tariff Instruction.

Regulatory Accounting System (RAS)

The requirement for Ooredoo to prepare and submit on an annual basis regulatory separated accounting information covering all services it is currently offering (independent of whether it is a DSP in the Relevant Market), in line with the procedures and requirements set out in the RAS orders and instructions (cf. “RAS Orders for the financial years 2013+”, CRA 2014/05/25A).

The Authority notes that whilst the RAS requirements are generally linked to a DSP status, the Authority considers that lifting any dominance findings from Ooredoo at the retail level does not imply that Ooredoo shall stop providing the related information on those services in its RAS. This is due to the following:

- An objective of Ooredoo's RAS requirements is to inform cost oriented pricing of interconnection and access services. This can be assessed only with an understanding of the overall performance of Ooredoo across all regulated and non-regulated services. As such, providing only part of the financial information would not be sufficient to ensure compliance with this general obligation.
- As a DSP at wholesale level, Ooredoo has specific regulatory obligations in terms of ensuring it does not engage in anti-competitive practices (such as not to engage in a margin squeeze), the assessment of which requires relevant data to be provided to the Authority on both the wholesale and retail level.
- The Authority has the right to request any information necessary for it to ensure that competition develops on the market, etc. (see Art. 62 of the Telecoms Law).

Wholesale tariff regulation.

The requirement to offer cost-oriented tariffs for all wholesale services falling in markets in which a DSP is found to be dominant, in line with the procedures and requirements set out by the Authority.

Preparation of Reference Offer.

The requirement for DSPs - upon request of the Authority - to prepare, update and publish reference offers for wholesale access and interconnection services falling in markets in which they are found to be dominant, in line with procedures and requirements set out by the Authority.

Table 14. Proposed remedies on DSPs in each market in addition to those previously mentioned

(Sub)Market	DSP(s)	Proposed remedies
Retail service markets		
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services	**Ooredoo**	**RTI /RAS**
M2 - Retail international fixed outgoing call services • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c - Retail international outgoing call services from a mobile device – Residential customers • M2d - Retail international outgoing call services from a mobile device – Business customers	**Ooredoo (in M2a and M2b only)**	**RTI /RAS**
M3 - Retail national leased lines services	**Ooredoo**	**RTI /RAS**
M4 - Retail international leased lines services	**Ooredoo**	**RTI /RAS**
M5 - Retail national mobile voice and broadband services • M5a - Retail national mobile voice and broadband services – Residential customers	**n/a**	**RAS (for Ooredoo only)**

• M5b - Retail national mobile voice and broadband services – Business customers		
Wholesale service markets		
M6 - Wholesale call origination on public telecommunications networks at a fixed location	**Ooredoo**	**Reference Offer and Tariff Regulation; RAS**
M7 - Wholesale termination on individual telecommunications networks at a fixed location	**Ooredoo, Vodafone**	**Reference Offer and Tariff Regulation; RAS (for Ooredoo only)**
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	**Ooredoo (in M8b, M8c and M8d only)**	**Reference Offer and Tariff Regulation; RAS**
M9 - Wholesale broadband access at a fixed location	**Ooredoo**	**Reference Offer and Tariff Regulation; RAS**
M10 - National trunk segment of (national and international) wholesale leased lines services	**Ooredoo**	**Reference Offer and Tariff Regulation; RAS**
M11 - Terminating segment of (national and international) wholesale leased lines services	**Ooredoo**	**Reference Offer and Tariff Regulation; RAS**
M12 - International transit segment of international wholesale leased lines services	**n/a**	
M13 - Wholesale access and origination on public mobile networks	**n/a**	
M14 - Wholesale termination on individual mobile networks	**Ooredoo, Vodafone**	**Reference Offer and Tariff Regulation; RAS (for Ooredoo only)**

Annex I Glossary, acronyms and abbreviations

ARPU	Average revenue per user
ARF	Regulatory Framework
Candidate Markets	As defined by the MDDD process
CBP	Countervailing Buyer Power
CPS	Carrier Pre Selection
CRA	Communications Regulatory Authority
CS	Carrier Selection
Competition Powers	The Authority’s ability to regulate ex-post
Day	Refers to a calendar day and not working day, unless specifically mentioned
DSP	Dominant Service Provider
Dynamic Markets	As defined by the MDDD process
Executive By-Law	Executive By-Law for the Telecommunications Law 2009
GPON	Gigabit Passive Optical Network
IDD	International Direct Dialling
IP	Internet Protocol
LTE	Long Term Evolution (4G)
MDDD	Market Definition and Dominance Designation
MPLS	Multiprotocol Label Switching
MSAN	Multi Service Access Node
MVNO	Mobile Virtual Network Operator
NGN	Next Generation Network (fibre)
NSP	National Service Provider
OLT	Optical Line Termination
Ooredoo	Licensed service provider in Qatar for fixed and mobile services
OTT	Over-The-Top services
PoP	Point-of-Presence
PSTN	Public Switched Telephone Network (copper)
Public Telecommunications Services	Any form of transmission, emission or reception of signs, signals, writing, text, images, sounds or other intelligence provided by means of a telecommunications network to a third party offered to the public
QNBN	Qatar National Broadband Network: passive fibre infrastructure available on an open-access basis
RAN	Radio Access Network

Relevant Market	As defined by the MDDD process
SIM	Subscriber Identity Module
SMP	Significant Market Power
SP	Service Provider
SSNIP	Small but Significant Non-transitory Increase in Price
TCT	Three Criteria Test
USB	Universal Serial Bus standard
VAS	Value Added Services
Vodafone	Licensed service provider in Qatar for fixed and mobile services
VoIP	Voice-over-Internet Protocol
VPN	Virtual Private Network
VULA	Virtual Unbundled Local Access

Annex II Preliminary Mapping of services to Markets

The table below provides a preliminary overview of the services included in each market considered within this MDDD update. Please note this is provided for convenience only and should not be taken to be an exhaustive list of services.

Market	Services included
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services	M1a - Retail fixed access services • Fixed line rental and installation services – Residential and Business customers • Payphone access M1b - Retail national fixed call services • National call services (incl. local and national fixed-to-fixed calls, fixed-to-mobile calls, emergency call services, calls to toll free numbers and special services) – Residential and Business customers • Value added and ancillary services (voicemail, Caller Line Identification, Call Waiting, Conference Calling and Call Forward) – Residential and Business customers M1c - Retail fixed broadband services • Fixed broadband services (incl. installation) - Residential and Business customers
M2 - Retail international outgoing call services[1] • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c – Retail international outgoing call services via a mobile device – Residential customers • M2d – Retail international outgoing call services via a mobile device – Business customers	M2a - Retail international outgoing call services at a fixed location – Residential customers • International outgoing calls from a fixed line – Residential customers • International calling cards • International outgoing calls from a payphone M2b - Retail international outgoing call services at a fixed location – Business customers • International outgoing calls from a fixed line –Business customers M2c – Retail international outgoing call services via a mobile device – Residential customers • International outgoing calls from a mobile device – Residential customers M2d – Retail international outgoing call services via a mobile device – Business customers • International outgoing calls from a mobile device –Business customers
M3 - Retail national leased lines services	• National private circuit (MPLS, VSAT, VPN)
M4 - Retail international leased lines services	• International leased lines (Global Internet, IPLC, Global IP VPN)
M5 - Retail national mobile voice and broadband services • M5a - Retail national mobile voice and broadband services – Residential customers • M5b - Retail national mobile voice and broadband services – Business customers	M5a - Retail national mobile voice and broadband services – Residential customers • Pre-paid mobile connection services • Post-paid connection and monthly line rental service – Residential customers • Pre-paid and post-paid national call services (incl. local and national fixed-to-fixed calls, fixed-to-mobile calls, emergency call services, calls to toll free numbers and special services) – Residential customers • Value added and ancillary services (voicemail, Caller Line Identification, Call Waiting, Conference Calling and Call Forward) – Residential customers • Pre-paid and post-paid messaging services (SMS,MMS) – Residential customers • Occasional access to the Internet on pre-paid and post-paid mobile voice SIM cards • Confined connectivity mobile broadband services – Residential customers

	• Dedicated mobile broadband services – Residential customers M5b - Retail national mobile voice and broadband services – Business customers • Post-paid connection and monthly line rental service – Business customers • Post-paid national call services (incl. local and national fixed-to-fixed calls, fixed-to-mobile calls, emergency call services, calls to toll free numbers and special services) –Business customers • Value added and ancillary services (voicemail, Caller Line Identification, Call Waiting, Conference Calling and Call Forward) –Business customers • Post-paid messaging services (SMS,MMS) –Business customers • Occasional access to the Internet on post-paid mobile voice SIM cards • Confined connectivity mobile broadband services –Business customers • Dedicated mobile broadband services –Business customers
M6 - Wholesale call origination on public telecommunications networks at a fixed location	• Fixed call origination services
M7 - Wholesale termination on individual telecommunications networks at a fixed location	• Fixed call termination services
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).).	• Passive and active access to infrastructure including duct, dark fibre, sites and towers, international gateways and colocation • Wholesale Duct Supervision • Wholesale Duct Expert Support & Transportation
M9 - Wholesale broadband access at a fixed location	• Wholesale Bitstream/ VULA Access (DSLAM access, ATM/IP bitstream), which may be used to provide broadband and / or voice services
M10 - National trunk segment of (national and international) wholesale leased lines services	• Core network infrastructure access
M11 - Terminating segment of (national and international) wholesale leased lines services	• Access from customer location to PoP (local access network)
M12 - International transit segment of international wholesale leased lines services	• Transit capacity from the international gateway to the POP of the service provider offering
M13 - Wholesale access and origination on public mobile networks	• Wholesale mobile access services • Wholesale call origination services • Wholesale data origination services
M14 - Wholesale termination on individual mobile networks	• Mobile call termination services • Mobile data termination services

The table below provides a mapping of retail service markets to wholesale service markets.

Retail service markets	Wholesale service market
M1 - Retail national fixed voice and broadband services	
M1a - Retail fixed access services	Active Wholesale Products: • M9 - Wholesale broadband access at a fixed location (VULA or Bitstream) • M10 and 11 – Trunk and Terminating (for Enterprise connectivity) Passive Wholesale Products: • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space
M1b - Retail national fixed call services	Active Wholesale Products: • M6 - Wholesale call origination on public telecommunications networks at a fixed location • M7 - Wholesale termination on individual telecommunications networks at a fixed location • M9 - Wholesale broadband access at a fixed location (VULA or Bitstream) • M10 and 11 – Trunk and Terminating (for interconnection and / or transmission links) • M14 - Wholesale termination on individual mobile networks Passive Wholesale Products: • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space
M1c - Retail fixed broadband services	Active Wholesale Products: • M9 - Wholesale broadband access at a fixed location (VULA or Bitstream) • M10 and / or M11 – Trunk and Terminating (to reach / access to the international gateway) • M12 – International segment of wholesale leased lines services Passive Wholesale Products: • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).
M2 - Retail international fixed outgoing call services	

Retail service markets	Wholesale service market
• M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers	Wholesale Active Products: • M6 - Wholesale call origination on public telecommunications networks at a fixed location • M9 - Wholesale broadband access at a fixed location (VULA or Bitstream) • M10 and / or M11 – Trunk and Terminating (for interconnection and / or transmission links and / or to reach / to access the international gateway facilities) • M12 – International segment of wholesale leased lines services Wholesale Passive Products: • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).
• M2c - Retail international outgoing call services from a mobile device – Residential customers • M2d - Retail international outgoing call services from a mobile device – Business customers	Wholesale Active Products: • M10 and / or M11 – Trunk and Terminating (for interconnection and / or transmission links and / or to reach / to access the international gateway facilities) • M12 – International segment of wholesale leased lines services • M13 - Wholesale access and origination on public mobile networks Wholesale Passive Products: • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).
M3 – Retail national leased lines services	Wholesale Active Products: • M10 - National trunk segment of (national and international) wholesale leased lines services • M11 - Terminating segment of (national and international) wholesale leased lines services Wholesale Passive Products: • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space •
M4 – Retail international leased lines services	Wholesale Active Products • M10 - National trunk segment of (national and international) wholesale leased lines services • M11 - Terminating segment of (national and international) wholesale leased lines services • M12 – International segment of wholesale leased lines services Wholesale Passive Products • M8a – Towers for wireless access • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical

Retail service markets	Wholesale service market
	access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).
M5 – Retail national mobile voice and broadband services	
• M5a – Retail national mobile voice and broadband services – Residential customers • M5b – Retail national mobile voice and broadband services – Business customers	Wholesale Active Products • M7 - Wholesale termination on individual telecommunications networks at a fixed location • M10 and 11 - National trunk and terminating segment of wholesale leased lines services (for mobile backhaul. interconnection and / or transmission links) • M12 – International segment of wholesale leased lines services • M13 - Wholesale access and origination on public mobile networks • M14 - Wholesale termination on individual mobile networks Wholesale Passive Products • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSPs' dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).

The table below provides a mapping of Ooredoo's 2014 RAS services to the MDDD Candidate Markets.

2015 MDDD Candidate Market	Ooredoo RAS services
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services	• Fixed Office in a Box (Non-usage) • Fixed Fiber PSTN (Non-usage) • Fixed Fiber PSTN - Double play (Non-usage) • Fixed Fiber PSTN - Triple Play (Non-usage) • Fixed FWA/ FCT (Non-usage) • Fixed WLL (Non-usage) • Fixed IP Telephony (Non-usage) • Fixed PSTN (Non-usage) • Fixed PSTN - Double Play (Non-usage) • Fixed PSTN - Triple Play (Non-usage) • Fixed Toll Free Rentals (Non-usage) • Fixed Digital access PR - ISDN (Non-usage) • Fixed Digital access BR - ISDN (Non-usage) • Fixed Dial-up Data • Fixed Other • Fixed Card to Mobile Voice • Fixed Card to Off-net Fixed Voice • Fixed Card to Off-net Mobile Voice • Fixed to Mobile Voice • Fixed to Off-net Fixed Voice • Fixed to Off-net Mobile Voice • Fixed to On-net Voice • Fixed Payphones to Mobile Voice • Fixed Payphones to Off-net Fixed Voice • Fixed Payphones to Off-net Mobile Voice • Fixed Toll Free to National Voice • Fixed WLL - ADSL (Non-usage) • Fixed Internet Hosting (Non-usage) • Fixed Fiber Broadband - Double play (Non-usage) • Fixed Fiber Broadband - Triple Play (Non-usage) • Fixed ADSL Double Play (Non-usage) • Fixed ADSL Triple Play (Non-usage)
M2 - Retail international outgoing call services • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c – Retail international outgoing call services via a mobile device – Residential customers • M2d – Retail international outgoing call services via a mobile device – Business customers	• Mobile Outbound Roaming SMS • Mobile Outbound Roaming Terminating Voice • Mobile Outbound Roaming Originating Voice • Fixed Card to International Voice • Fixed to International Voice • Fixed Payphones to International Voice • Fixed Toll Free to International Voice • Mobile to International MMS • Mobile to International SMS • Mobile to International Voice & Video
M3 - Retail national leased lines services	• Fixed National IP / MPLS VPN (Non-usage) • Fixed IP/ MPLS Internet (Non-usage) • Fixed Fiber Optic Network (Non-usage) • Fixed Dedicated internet access (Non-usage) • Fixed National Leased Circuits - Capacity (Non-usage) • Fixed National Leased Circuits - Distance (Non-usage)
M4 - Retail international leased lines services	• Fixed International IP / MPLS VPN (Non-usage) • Fixed International Leased Circuits (Non-usage) • Fixed International IP / MPLS VPN - Global Ethernet (Non-usage) • Fixed VSAT (Non-usage)
M5 - Retail national mobile voice and broadband services • M5a - Retail national mobile voice and broadband services – Residential customers • M5b - Retail national mobile voice and broadband services – Business customers	• Tetra • Mobile Bulk SMS • Mobile Short Codes SMS (Non-usage) • Mobile Rentals (Non-usage) • Mobile to Off-net MMS • Mobile to On-net MMS • Mobile to Off-net SMS

	• Mobile to On-net SMS • Mobile to On-net Voice & Video • Mobile to Fixed Voice • Mobile to Off-net Fixed Voice • Mobile to Off-net Mobile Voice & Video • Mobile Other • Mobile Outbound Roaming Data • Mobile Data (excludes roaming)
M6 - Wholesale call origination on public telecommunications networks at a fixed location	• Wholesale Inbound Roaming Originating Voice
M7 - Wholesale termination on individual telecommunications networks at a fixed location	• Wholesale International to Fixed Voice • Wholesale Off-net to Fixed Voice • Wholesale Off-net - Other • Wholesale Off-net to Fixed Emergency Service Voice • Wholesale Off-net to Fixed Toll-Free Voice
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's ducts, including relevant ancillary facilities/services and collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	• Wholesale Duct Manholes and Joint Boxes Rentals (Non-usage) • Wholesale Duct Space Rentals (Non-usage) • Wholesale Indoor Site Sharing (Non-usage) • Wholesale Outdoor Site Sharing (Non-usage) • Wholesale Duct - Access Request (Non-usage) • Wholesale Duct Miscellaneous • Wholesale Duct Supervision • Wholesale Duct Expert Support & Transportation
M9 - Wholesale broadband access at a fixed location	• Wholesale Bitstream Rentals - (Non-usage)
M10 - National trunk segment of (national and international) wholesale leased lines services M11 - Terminating segment of (national and international) wholesale leased lines services M12 - International transit segment of international wholesale leased lines services	• Wholesale National Lease Circuit Connections (Non-usage) • Wholesale National Lease Circuit Rentals - Capacity (Non-usage) • Wholesale National Lease Circuit Rentals - Distance (Non-usage) • Wholesale Interconnection Circuit Connections (Non-usage) • Wholesale Interconnection Circuit Rentals - Capacity (Non-usage) • Wholesale Interconnection Circuit Rentals - Distance (Non-usage) • Wholesale International Private Leased Circuit Rental (Non-usage)
M13 - Wholesale access and origination on public mobile networks	• Wholesale Inbound Roaming Data • Wholesale Inbound Roaming SMS • Wholesale Inbound Roaming Originating Voice
M14 - Wholesale termination on individual mobile networks	• Wholesale International to Mobile SMS • Wholesale Inbound Roaming Terminating Voice • Wholesale International to Mobile Voice & Video • Wholesale Off-net to Mobile MMS • Wholesale Off-net to Mobile SMS • Wholesale Off-net to Mobile Voice & Video
Non-MDDD markets	• Qatar Data Center • Wholesale International IP Transit Connections (Excluded) (Non-usage) • Wholesale International IP Transit Rentals (Excluded) (Non-usage) • Wholesale International Hubbing Voice • "CPE Sales, Maintenance & Rentals" • Other • Fixed Fiber TV Packages (Non-usage) • Fixed TV Packages (Non-usage) • Mega Projects • Mobile Money

- Retail development product
- Wholesale development product
- ICT Solutions
- Third party TV broadcast (Non-usage)

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الشركة القطرية لشبكة الحزمة العريضة
Qatar National Broadband Network

March 17, 2016

Mr. Mohammed Al Mannai
President
Communications Regulatory Authority
P.O. Box 23264, Al Nassr Tower
Doha, Qatar

Dear Mohammed,

Subject: MDDD/ Dominance Assessment in Relevant Markets

On 1 February 2016 the CRA published its assessment of Candidate Markets arising out of the MDDD Consultation Phase 1 and its preliminary assessment of the appropriate dominance designation within these markets. The CRA is now seeking input from stakeholders as to its dominance assessment and whether a given market is susceptible to *ex ante* regulation.

A few preliminary comments are warranted. Firstly, Qnbn notes that pursuant to its License its sphere of activity is limited to offering passive fiber services. As such it can only provide the most general of observation concerning the Candidate Markets specifically addressing active services. Secondly, it would have been helpful had the CRA provided empirical and official market share information even if this would have only been in the context of order of magnitude. This would have permitted stakeholders to this Consultation to provide more cogent and precise submissions.

Table 3 is Shocking

No matter the perspective utilized or the rationalizations employed, Table 3 is shocking. If a similar picture were juxtaposed side by side for all GCC countries, most other jurisdictions would disclose a far more competitive and dynamic telecommunications marketplace. All the more so, if actual empirical data on market share was made available in this Consultation. Confidentiality on market share only serves to obfuscate the significant market dysfunction in favor of the incumbent.

In reviewing Table 3, and the dominance designation reflected therein, it is abundantly clear that after years of liberalization of the fixed, mobile and wholesale passive markets that Ooredoo remains dominant in most, if not nearly all, Candidate Markets. The CRA needs to make a serious assessment of the reasons behind such phenomena and whether such is in the best interests of the telecommunications marketplace, specifically, and the best interests of the State of Qatar, generally. It is no secret that an active and healthy telecommunications marketplace would generate billions of additional revenue to the State of Qatar.

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Qatar National Broadband Network

If we look 3 years into the future, is it more than likely that Table 3 will have seen no changes? Qnbn respectfully submits that this would be in no one's best interests. If the future holds no changes for the State of Qatar's telecoms marketplace, the CRA needs an introspective assessment of whether this is a failure of the regulatory framework, a dominant and pervasive incumbent engaged in anti-competitive conduct without sanction, weak and ineffective competitors, insufficient number of competitors, an almost non-existent vibrant access regime or a combination of a number of multiple factors. Whatever this introspection would reveal, the ensuing measures which may result would be significantly more impactful than a simple assessment of market share and the application of ex ante regulation. In making this comment Qnbn is cognizant that the MDDD Consultation is a necessary and important proceeding. However, Qnbn submits, and the CRA must realize, it will have to undertake bold Consultations and even bolder steps to make the telecommunications market truly competitive and financially rewarding for the State as a whole.

The Two Questions

In this Consultation the CRA focuses primarily upon two questions, mainly do we agree with the CRA dominance assessment and do we agree with the CRA's application of the TCT test for a given market.

Whatever internationally accepted criteria was utilized the ultimate conclusion would be that Ooredoo is the dominant service provider as identified by the CRA in the relevant Candidate Markets. In this regard Qnbn concurs with the CRA's various dominance assessments. In its15 January 2016 Submission in response to MDDD Phase 1, Qnbn noted it had no objection to the utilization of the Three Criteria Test provided that it is applied by the CRA in a fair, balanced and consistent manner. In response to the second question raised Qnbn concurs with the CRA's application of the TCT test to the Candidate Markets specifically identified by the regulator.

Markets M8b (dark fiber) and M8c (ducts)

As specifically concerns Markets M8b (dark fibre) and M8c (ducts) Qnbn concurs that Ooredoo is a Dominant Service Provider in such markets and must be subject to *ex ante* regulation.

To date the CRA has addressed *ex ante* regulation for the M8c market with the utilization of a Reference Offer. In most jurisdictions a Reference Offer is a tool primarily utilized for *ex post* regulation. Given the failure of a fully functional access regime in the State of Qatar, Qnbn respectfully submits that the CRA should utilize the full array of tools available for *ex ante* regulation of the Dominant Service Provider in this market segment. Prices for duct access and ancillary services should be arrived at on the basis of economic data filed by the incumbent similar to the data required to justify retail tariffs. The CRA should be able to dictate the terms and conditions upon which duct access is made available in the same manner and degree to which it dictates terms upon the incumbents retail tariffs. Utilizing Reference Offers as a form of *ex ante* regulation for duct access situates the CRA not as a regulator with powers of overview and oversight but rather as a simple party negotiating terms and conditions of an agreement with a powerful dominant incumbent.

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Qatar National Broadband Network

As for the M8b dark fiber market the CRA recognizes it as underdeveloped with low demand from 3rd parties. To date, Qnbn with a limited passive license is the sole service provider. The CRA should refrain from any form of regulation of this market and should not, under any circumstances, require the incumbent to offer fiber. Qnbn should be given the time necessary to gain an adequate foothold in this market segment before the incumbent is required by the CRA to offer such a product. The CRA recognizes that Ooredoo (although a self-supplier) is dominant in terms of dark fiber. If Ooredoo were forced by the CRA to enter this particular market it would immediately destroy any potential for competition as the dominant player could economically crush Qnbn with its substantial market power and propensity to engage in anti-competitive conduct. Additionally, Ooredoo's entry into this market segment would represent a major disincentive for future investment in Qnbn. Traditionally; regulators do not force incumbents into dark fiber offerings preferring to concentrate on alternative strategies such as functional duct access regimes. It would be fairer and far better for the CRA to address all of the access issues which exist in the marketplace than attempt to force the incumbent into a dark fiber offering.

Qnbn anticipates that the DSP will argue that it should not be viewed as the Dominant Service Provider as it self-supplies without an equivalent offering to the marketplace. In response Qnbn notes that in nearly all jurisdictions incumbents have experienced either functional or operational separation between their wholesale and retail operations. This is due to competitive, regulatory and economic considerations. Separation between wholesale and retail operations is the one of the few ways regulators can introduce fairness into the competitive landscape. That such separation has not occurred in the State of Qatar is unfortunate. However, that this has not happened in the State of Qatar should not be a justification for Ooredoo arguing that a wholesale market does not exist.

***Ex Ante* Regulatory Remedies**

In its Consultation the CRA states that 'it may impose additional obligations or remedies it proposes to enforce on DSP's in each market'. These remedies listed are more in the nature of 'filing requirements' as opposed to actual remedies designed to sanction and prevent anti-competitive conduct. From Qnbn's perspective the whole MDDD exercise should be to identify dominance but also, if remedies are to be discussed, examine the impediments to being able to stop anti-competitive conduct. The incumbent has been found to have acted in an anti-competitive manner on a number of occasions and can be said to have ready propensity not only to act in such a manner but also to completely disregard the CRA's findings as well as its Orders to stop such anti-competitive behavior.

Remedies should not simply be examined from an *ex ante* perspective but should also be viewed from an *ex post* vantage to be effective. Remedies need to be tangible, real, punitive and effective to prevent a DSP from engaging in anti-competitive conduct. At no time has the CRA utilized the powers found at article (70) of the Telecommunications Law and imposed fines or referenced enforcement of anti-competitive finding to the Public Prosecutor. This fact is obvious to stakeholders in the marketplace. What is not transparent is the manner in which the DSP has acted with the CRA with respect to reporting requirements, retail tariff instruction compliance, or complied with all RAS requirements. Qnbn suspects the CRA has had its "hands full" in having the DSP comply with all aspects of these *ex ante* 'remedies'. What is clear is the DSP's reticence and reluctance to publish a Reference Offer for duct access (M8c). Qnbn has been engaged in this matter and the DSP's appears to be a flagrant disregard for the CRA's authority.

In response to Question 30, Qnbn states unequivocally that the CRA's proposed remedies equate to a balm for a DSP engaged in anti-competitive conduct. If the CRA has any desire to change the shocking picture depicted in Table 3 it must get serious about introducing and pursuing remedies which have substance and are effective deterrents to any DSP contemplating an abuse of its dominance.

Yours Sincerely,

Philip Brazeau
Head of Regulatory
QNBN

[NON-CONFIDENTIAL]

Ooredoo Response to the Market Definition and Dominance Designation in Qatar - Dominance Assessment in Relevant Markets

CRA Reference: CRARAC 1/02/16

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1. Introduction and executive summary

1.1 Ooredoo thanks the Communications Regulatory Authority (CRA) for the opportunity to comment on the consultation document Market Definition and Dominance Designation in Qatar – Dominance Assessment in Relevant Markets (the Dominance assessment consultation) published by the CRA on 1 February 2016.

1.2 The Dominance assessment consultation is part of the second phase (Phase II) of the Market Definition and Dominance Designation (MDDD) process, currently being conducted by the CRA. The first phase of the MDDD (Phase I) was aimed at confirming the CRA's proposed methodology and to develop a list of Candidate Markets. The preliminary results from Phase I were subject to a public consultation in May 2015 (the Market definition consultation) and followed by a final decision in July 2015.

Overarching objectives of this consultation

1.3 The objective of the Phase II consultation is for the CRA to present and obtain feedback from the industry on its initial assessment of:

1.4 Which of the Candidate markets identified in Phase I of the MDDD are Relevant markets and therefore susceptible to ex-ante regulation;

1.5 The proposed designation of Significant Market Power (SMP) operators in each Relevant market; and

1.6 The high level proposal for remedies that may be imposed on SMP operators in each relevant market.

1.7 As stated in its response to the Phase I consultation, Ooredoo agrees with the CRA that a fundamental review of the regulatory framework of the telecommunications market in Qatar is now required. However, Ooredoo has serious concerns with the analysis and preliminary conclusions reached by the CRA.

1.8 Ooredoo believes that the main objective of the CRA should be to promote a regulatory framework which reaches an appropriate balance between protecting consumers' interests and stimulating investment and innovation.

1.9 This is in line with the mandate of the CRA as set in the Telecommunications Law. Article 2 of the law sets, among others, the following objectives for the CRA:

> "*Encouraging the introduction of advanced and innovative information and telecommunication technologies to meet the needs of customers and the public;*
>
> *Increasing customer benefits and safeguarding their interests;*
>
> *Encouraging sustainable investment in the telecommunication sector."* [1]

1.10 In Ooredoo's view this should be achieved through a regulatory regime that provides market players with level-playing-field access to those essential facilities without which they could not compete, but which allows the competitive process, rather than external regulation, to determine the optimal level of investment and market share of individual operators.

1.11 This approach would require that the CRA focuses its intervention only where absolutely necessary to enable and protect the competitive process, identifying the least burdensome set of remedies required to address the competitive problem identified.

1.12 This approach would also be in line with the policies followed by other regulators in the region. For example, in UAE, the Telecommunications Regulatory Authority (TRA) states that:

> *""In maintaining or revising existing ex-ante obligations, or in imposing new obligations, the TRA considers ex -ante obligations should be […]Targeted - any ex-ante obligation to be imposed should be the minimum obligations necessary to remedy the competition concerns identified in the competition assessment"*[2]

1.13 Instead, the CRA appears to have adopted an approach that aims at protecting specific individual competitors, rather than protecting the competitive process and has proposed a wide and intrusive set of remedies, without consideration or explanation of why all these remedies would be required to achieve the specified objectives. This is very clearly at odds with precedent set by leading international telecoms regulators.

[1] Telecommunications Law, Decree 34 of 2006, Article 2

[2] UAE TRA, 2010, Market Definition and Competition Assessment Guidelines, p8. https://webcache.googleusercontent.com/search?q=cache:PdLTMSTpfswJ:https://www.tra.gov.ae/assets/tc8Fah3i.pdf.aspx+&cd=1&hl=en&ct=clnk&gl=uk

1.14 The remainder of this section discusses in more detail Ooredoo's general comments and concerns on the Dominance assessment consultation.

1.15 In summary, the regulation proposed in the Dominance assessment consultation:

- Gives no due consideration to the Qatari Government Policy;
- Appears to reward Vodafone Qatar (VFQ) and Qatar National Broadband Network (QNBN) license failure and penalise Ooredoo for investment;
- Results in over-regulation of the retail markets;
- Envisages non-proportional wholesale remedies; and
- In the case of dark fibre access, the regulation is not supported by policy and legal grounds.

No due consideration given to Government Policy

1.16 The proposals set out in the Dominance assessment Consultation appear to contradict some of the policy objectives for the sector, and in particular, the National Broadband Plan (NBP), that was published by the Minister of Information and Communications Technology (MICT) towards the end of 2014.

1.17 The NBP's overarching objective as claimed within the document itself, is to support and promote broadband market development. The NBP claims to fulfil the dual purpose of reflecting the government's commitment to broadband and providing guidance to the market and describes a set of four action areas, each containing short-term and long-term cross-sector policy actions with the following set of targets:

1.17.1 All of the population to have the ability to choose between a minimum of two broadband retail providers by 2016, irrespective of location.

1.17.2 Ninety-five percent of households to have the ability to access affordable and high-quality broadband service of at least 100 Mbps effective download and 50 Mbps effective upload speeds by 2016.

1.17.3 All businesses, schools, hospitals and government institutions to have high-quality access to at least 1 Gbps effective symmetrical speeds by 2016.

1.17.4 Digital literacy to be expanded to all of the mainstream population by 2016, in conjunction with guarantees of the users' digital privacy, protection of personal data and freedom of opinion and expression.

1.18 Three of the four targets are largely supply driven, whilst the last is a demand side target, where the service providers have more limited role to play. With regard to the three supply side targets, as Ooredoo illustrates below, these have already been largely met.

Table 1: Governments targets

	Targets	Current status
Target 1	All of the population to have the ability to choose between a minimum of two broadband retail providers, irrespective of location.	For the purpose of this plan, basic broadband is defined as a service offering 8Mbps effective download and 4Mbps effective upload speeds. Target accomplished via Mobile Broadband service provided by Ooredoo and VFQ.
Target 2	Ninety-five percent of households to have the ability to access affordable and high-quality broadband service of at least 100Mbps effective download and 50Mbps effective upload speeds.	Target accomplished by Ooredoo's fiber network rollout.
Target 3	All businesses, schools, hospitals and government institutions to have high-quality access to at least 1Gbps download and upload speeds.	It should be noted that not all listed institutions demand 1Gbps service. Ooredoo competes with QNBN/VFQ to provide this service to satisfy actual demand. Educational discounts, as mandated by the CRA will be phased out by 2016.
Target 4	Digital literacy to be expanded to all of the mainstream population, in conjunction with guarantees of the user's digital privacy, protection of personal data and freedom of opinion and expression.	Protection of personal data is anchored in numerous laws in Qatar: - Constitution, Telecom Law and By-Law, Consumer Protection Policy; - Penal Code, Qatar Central Bank Regulation; and - E-commerce law - however, the process and criteria of digital signature still to be defined by CRA.

1.19 The CRA's role within the sector must be to help achieve the policy aspirations and targets of Government, which have been succinctly articulated in the National Broadband Plan. As set out above, these appear to have been largely achieved already. In the absence of a government policy driver, Ooredoo is concerned that the CRA appears to be trying to impose a regulatory framework without clearly articulating the objectives that such framework is trying to achieve. Ooredoo considers that investment, consumer protection and innovation in the market would instead be better served by a regulatory framework clearly grounded in the policy objectives set out by the Government.

The proposed regulation appears to reward VFQ and QNBN license failure and penalise Ooredoo for investment

1.20 Both VFQ and QNBN have so far failed to achieve their respective licence obligations in relation to network roll-out.

- On 29 April 2010, VFQ issued its license obligation. Annex E of the licence obligation describes VFQ fixed coverage obligations, which include the availability of exchange and access networks for telephony services, the installation and operation of broadband services, as well as leased lines. Annex G of the VFQ license describes coverage obligations, which include 100% coverage for the whole of Qatar by the fourth anniversary date, which was 20 April 2014.

- QNBN's authorisation and subsequent license issued on 22 July 2012[3] and amended on 11 June 2013[4] contains coverage rollout obligations which include coverage of all municipal zones as per the Administrative Map, 36 months after the Effective date, i.e. by 22 July 2015.

1.21 Ooredoo is concerned that these failures by VFQ and QNBN to meet their licence obligations have not only not been taken into account by the CRA, but that operators would be even more incentivised to continue to operate in breach of their obligations.

1.22 An obligation on Ooredoo to supply fibre on a wholesale basis is likely to undermine facilities based competition, as it will disincentive QNBN from deploying its own fibre in parallel with Ooredoo. In particular, a wholesale access obligation would result in QNBN buying wholesale access from Ooredoo rather than building its own dark fibre network,

[3] Decision is available at http://www.ictqatar.qa/en/documents/document/passive-fixed-telecommunications-networks-and-services-license-qnbn.

[4] Decision is available at http://www.ictqatar.qa/en/documents/document/amended-qnbn-license-document.

even though this is the stated objective of QNBN. This in turn will undermine, rather than increase, competition at the infrastructure level.

1.23 Such an outcome would be contrary to the view, confirmed repeatedly in meetings with MICT and the CRA on the subject of QNBN, that QNBN would be responsible for funding the cost of constructing a parallel passive network.

1.24 While the CRA may argue that a more relaxed approach to QNBN services is appropriate on the basis that QNBN is not currently categorised as a dominant service provider (which Ooredoo would argue is fundamentally incorrect), this logic is not supported when overseas approaches to the regulation of government-owned NGA vehicles are considered.

1.25 For example:

- In Australia, NBN Co, the government owned entity rolling out the National Broadband Network (NBN), is explicitly prevented by law from supplying services in the absence of a standard form of access agreement (i.e. the Australian equivalent of a reference offer)[5] and is separately subject to stringent ex-ante regulation under a special access undertaking approved by the Australian Competition & Consumer Commission[6] - this is in addition to any regulation applicable to Telstra, the historical incumbent operator; and

- In Singapore, NetLink Trust (formerly OpenNet), the QNBN equivalent entity that operates the passive layer of the Singapore Next Generation National Broadband Network (NGNBN), is designated as a dominant licensee for regulatory purposes under the Singapore regulatory framework and is required to publish its own Interconnection Offer[7] under the NetCo Interconnection Code.[8]

1.26 In Ooredoo's view, the fact that QNBN has not yet been designated as a dominant service provider or subject to similar obligations to those that are being sought to be applied to

[5] Competition and Consumer Act 2010 (Cth), section 152CJA(1). The Standard Form of Access Agreement is available at http://www.nbnco.com.au/industry/service-providers/agreements/wba2.html

[6] See, http://www.accc.gov.au/regulated-infrastructure/communications/national-broadband-network/nbn-co-special-access-undertaking-2013/final-decision See also, http://www.nbnco.com.au/industry/service-providers/sau.html

[7] See, http://www.ida.gov.sg/Policies-and-Regulations/Industry-and-Licensees/Next-Gen-NBN/OpenNets-Interconnection-Offer-2012

[8] http://www.ida.gov.sg/Policies-and-Regulations/Code-of-Practice-and-Guidelines/Next-Generation-National-Broadband-Network-NetCo-Interconnection

Ooredoo demonstrates an inherent bias in the CRA's decision making processes between Ooredoo and other licensees.

1.27 In setting regulation in the market, the CRA should also take into account VFQ recent developments and its choice not to invest in high quality broadband services.

1.28 Since VFQ entered the market in 2009, competitive pressures on Ooredoo, in particular in the mobile sector, have increased significantly and this has resulted in material reductions in tariffs, as well as improvements in the quality and range of services made available to customers. VFQ's customer base grew by 22% in 2014, with 62% of the Qatari population (equal to 1.3m customers) using VFQ services monthly. This resulted in significant revenue growth for VFQ.[9]

1.29 VFQ's growth is not limited to the mobile sector. VFQ's broadband services are already available to many customers (both residential and business) in Barwa City, The Pearl and West Bay, and could have been more widely available if VFQ had complied with its license obligations, rather than choosing not to invest in the Qatari fixed market in breach its license obligations. Ooredoo also wishes to remind the CRA that Ooredoo had, on its own accord, approached VFQ sometime after the signature of the IAA with QNBN for a similar agreement for access to Ooredoo ducts on 15 December 2013. At the time, VFQ did not show interest in such access and gave no reason for their refusal to engage in duct sharing negotiations. Further, in the presence of some of the wholesale remedies proposed by the CRA, VFQ could also leverage its already large mobile customer base to expand its presence in the fixed broadband retail market, and therefore the CRA is underestimating the potential for entry and expansion in this market.

1.30 In summary, Ooredoo understands the CRA's objective desire to promote competition in the Qatar market. However, this should not come at the expense of the only operator in the market, Ooredoo, which has complied with all its investment obligations so far. The regulatory framework proposed by the CRA would not only provide further incentives for VFQ and QNBN to continue to ignore their investment obligations; it could also remove incentives for Ooredoo to undertake any further investment to improve its technology and

[9] VFQ, Annual Report 2014. *"We have continued to experience rapid growth in our consumer business during the year. In postpaid, we were able to capitalize on strong momentum since our launch in June 2012 and deliver 55% growth in FY14. Prepaid continued to grow faster than the market, experiencing over 19% growth this year"* (page 17). Document avalable at: http://www.VFQ.qa/files/dmfile/VFQAAnnualReportFY14_EN.pdf

service availability. This would be in direct contradiction with the government objectives for the sector, as discussed above.

1.31 There is a need for ex-ante regulatory obligations that flow from a dominance designation to be properly applied to the emerging industry structure having regard to a range of factors, such as the role of QNBN, the requirements of the applicable regulatory network, network topology and technical feasibility considerations, relevance, existing bilateral supply arrangements and levels of demand.

1.32 When such an analysis is undertaken, this model could potentially include:

- Duct access obligations on Ooredoo and other duct owners, such as QNBN, VFQ and property developers in areas where each entity has deployed (or deploys) its own duct infrastructure. This model of wholesale access is proportionate and would support competitive fibre deployment by QNBN and potentially VFQ, and serve the interests of the country; and
- Dark fibre access obligations on QNBN only. This is an appropriate regulatory response in light of the QNBN's mandate to deploy a nationwide dark fibre network using a 100% government funded vehicle and the fact that QNBN is deploying a multi-fibre GPON and P2P configuration which is specifically designed to be unbundled at the passive layer. Dark fibre access obligations on QNBN will support both inter-platform[10] and services based[11] competition in downstream retail markets. No such obligations should be imposed on Ooredoo for the legal, policy and economic reasons given above and within this response document.

1.33 When taken together, the above proposal will provide a coherent approach to ex-ante regulation, with regulation being appropriately targeted on licensees and focused on addressing key economic bottlenecks in a technically feasible manner.

1.34 The adoption of the above mentioned approach would avoid the CRA's overly interventionist and prescriptive posture towards Ooredoo, while avoiding a situation where the CRA asserts powers that are not supported by the regulatory framework or policy.

[10] Inter-platform competition would eventuate if Ooredoo self-supplies fibre services using its own network and VFQ buys from QNBN.
[11] Services based competition on the QNBN infrastructure would eventuate if both Ooredoo and VFQ buy dark fibre inputs from QNBN.

Over-regulation at retail level

1.35 In the policy framework set out in the CRA's 2014 Policy Statement: Regulating for the future (the 2014 Policy)[12], the CRA outlined a revised approach to the MDDD methodology, which was then also subject to consultation in Phase I of the MDDD. According to the 2014 Policy and the revised MDDD methodology, regulation in Qatar should be kept at minimum and should be focused on upstream markets only. Specifically, in the 2014 Policy the CRA announced the need to shift the focus of regulation from retail to wholesale markets and professed this as the guiding principle of the current MDDD process. In the Market definition consultation the CRA explicitly stated that:

> *"Ex-ante regulation at the wholesale level should be considered sufficient to tackle potential competition problems on the related downstream market(s).*
>
> *Regulation shall shift its focus from the retail side to the wholesale side as a needed move towards lighter forms of regulations, less intrusive, giving ground for innovation.*
>
> *A wholesale focus implies shifting the level of regulation to a higher point in the value chain focusing on the real bottlenecks, on the inputs not being replicable from a technological or economic point of view."*[13]

1.36 This approach is adopted in numerous jurisdictions, both internationally and in the region. The Oman TRA for example, in 2012 and 2013 stated that:

> *"TRA's preference is to regulate the wholesale markets in preference to retail markets so that retail players could be subject to lighter regulation."* [14]
>
> "*The TRA will apply remedies first to dominance in wholesale markets and only then will it consider whether it is necessary to also apply remedies to dominance in related retail markets, bearing in mind that the wholesale market remedies may preclude the need for retail market remedies."*[15]

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[12] http://www.ictqatar.qa/en/documents/document/policy-statement-regulating-future
[13] Market definition consultation p. 12
[14] TRA Oman, 2013: The way forward. https://www.tra.gov.om/about/2013-the-way-forward
[15] TRA Oman, 2012. Market Definition and Dominance Guidelines, p. 18, available at https://www.tra.gov.om/pdf/10-mdd-guidelines.pdf

1.37 The UAE TRA reflected similar view when setting the remedies in the last MDDD, when it refrained from setting tariff regulation on retail markets[16].

1.38 Similarly, the CITC, the Saudi regulator, stated in the 2010 Market Definition, Designation and Dominance Report:

> *"In the event that the CITC determines that each of one or more telecommunications service providers is a dominant service provider in one or more of the telecommunications markets, the CITC shall take into consideration whether the application of remedies to the dominant provider(s) in a wholesale telecommunications market(s) is likely to reduce the expected impacts of dominance in one or more corresponding retail telecommunications market(s)."* [17]

1.39 Contrary to this, in the preliminary findings of the Dominance assessment consultation, retail remedies are imposed in all of the nine Relevant markets and sub-markets identified.

1.40 Ooredoo believes that the over-regulation of retail markets proposed in the Dominance assessment consultation has resulted from the incorrect application by the CRA of the Three Criteria Test (TCT).

1.41 In particular, the CRA's use of the TCT does not follow regulatory best practice guidelines, as it fails to be iterative and is not conducted from a forward-looking perspective. These two issues are discussed in turn below.

1.42 As outlined, for example, in the European framework[18], the TCT should follow four steps:

- Definition of the markets at the retail level.
- For each retail level market, identification of whether the market is competitive in the absence of wholesale regulation.

[16] Document is available for download at https://webcache.googleusercontent.com/search?q=cache:Sg3GXDFgQPQJ:https://www.tra.gov.ae/assets/bB69sQ7B.doc.aspx+&cd=1&hl=en&ct=clnk&gl=uk

[17] CITC Saudi Arabia. Regulatory Framework for Designation of Markets & Dominance in the Telecom Sector. Available at: http://www.citc.gov.sa/English/RulesandSystems/RegulatoryDocuments/OtherRegulatoryDocuments/Documents/PL-SP-315-E-Regulatory%20Framework%20for%20Designation%20of%20Markets%20and%20Dominance%20in%20the%20Telecom%20Sector.pdf

[18] DG Connect, 2013, "Future electronic communications markets subject to ex-ante regulation."

- If the retail market is not competitive, identify the wholesale inputs and define wholesale remedies.
- Reassess retail market in light of the wholesale remedies.

1.43 This approach prevents over-regulation and especially ensures that retail level regulation is applied only if regulation in all upstream markets fails to ensure competitiveness. A similar point is made by the European Regulators Group (ERG) in its report on guidance on the application of the three criteria test. In the report, talking about national Regulatory Authorities (NRAs), the ERG states that:

> *"NRAs may examine whether high barriers to entry are susceptible to be non-transitory in the context of a modified Greenfield approach; that is, in the absence of regulation in the market concerned but including regulation which exists in markets that are upstream or closely related. In a modified Greenfield approach context, some of the barriers listed above might be reduced, for instance through the existence of a wholesale access obligation (which could reduce or eliminate barriers such as control of infrastructure not easily duplicated, technological advantages or superiority, and vertical integration) or the existence of a wholesale obligation of cost orientation."*[19]

1.44 Currently, the CRA has not followed this approach and has not applied the TCT iteratively. This resulted in retail remedies being proposed on all relevant retail markets and sub-markets. For example, in relation to the broadband market, the CRA should have undertaken the analysis following these steps:

- Consider the competitive situation at the retail level in the absence of regulation.
- If it was concluded that competition is not sufficient and the TCT is satisfied, the CRA should have considered the relevant wholesale input markets and appropriate regulatory remedies at the wholesale level (such as duct access).
- The CRA should have then reconsidered the retail market and the TCT, in light of the wholesale remedies considered in the second step.

[19] http://www.ictregulationtoolkit.org/en/toolkit/docs/Document/3661

- Before imposing any remedy at the retail level, the CRA would have then needed to demonstrate why the TCT is still satisfied, even considering the existence of wholesale remedies. However, no such analysis has been presented by the CRA.

1.45 Ooredoo is concerned by the over-regulation of the retail markets, as retail regulation is invasive and can distort competition. As currently defined by the CRA, the retail price caps would limit Ooredoo's ability to set its prices, which in turn would reduce VFQ's incentives to lower its prices, thus resulting in less competition and higher prices. As one of the main objectives of the CRA should be to increase consumer surplus in the market, Ooredoo believes that the CRA should be careful in considering the costs of imposing retail regulation.

1.46 In summary, by not applying the TCT iteratively, the CRA's mistakenly concluded that ex-ante retail regulation is necessary in all the relevant retail markets and sub-markets. This is incorrect and risky, as it can potentially damage market dynamics and in turn consumers. It is therefore imperative that the CRA re-conducts the TCT, being careful to applying it correctly.

Disproportionate wholesale remedies

1.47 The CRA proposes extensive regulation in both M8, in which it proposes to enforce Passive Infrastructure Access (PIA), and M9, in which it proposes to enforce active access regulation. The proposal in M8, in particular the obligation on Ooredoo to provide dark fibre, is an attempt to penalize Ooredoo for the abject failure of QNBN to roll out a nationwide network as per its license. The proposals in market M9, and in particular the obligation on Ooredoo for the provision of active broadband wholesale products, is again in response to VFQ's failure to invest and breach its license obligations. When considered together, these proposals are disproportionate and will deter any further investment from Ooredoo.

1.48 Ooredoo is seriously concerned by the lack of explanation by the CRA of the reasons why all of these remedies are necessary, how these relate to the obligations of other operators, as well as the failure to consider the costs imposed on the market, and ultimately, consumers by these remedies. This is discussed in more detail below.

Regulatory remedies in the context of existing obligations and arrangements with other operators

It is universally acknowledged that the most substantive barrier to facilities-based competition is the cost, timescales and administrative difficulties associated with civil works. Ooredoo already provides duct access to QNBN to facilitate a nationwide rollout of a dark fibre network. These ***existing*** arrangements, which have been effected through the normal market mechanism of a bilateral agreement, have substantially removed the civil work barriers and the time to provide services faced by a new infrastructure builder. Furthermore, both the CRA and Ooredoo have been working for many months to develop a Reference Infrastructure Access Offer (RIAO) that seeks to improve upon the existing Infrastructure Access Agreement (IAA) and be available to all licensed entities. It should be noted that discussions are also afoot with VFQ with the aim of concluding a duct access agreement.

1.49 Therefore, having regard to the fact that duct access arrangements are already in place with QNBN, and potentially VFQ very soon and in light of Ooredoo's legal, economic and policy concerns, obligations to provide both active and passive access represents an unwarranted intrusion in the market mechanism.

Considerations on the risk imposed by the proposed remedies

1.50 Approaches taken to the efficient creation and shared use of passive infrastructure and active wholesale remedies vary considerably in detail around the world but have, amongst their guiding principles, that the bearing of risk should be broadly symmetrical amongst market players. This, however, it is not the case of the CRA's proposed remedies.

1.51 Ooredoo is a listed company with a management that is required to determine the corporate capital investment strategy that will yield adequate returns to shareholders. Imposing wide ranging wholesale obligations on Ooredoo as suggested by the CRA will result in investors associating a higher risk with Ooredoo. As other investment appear relatively less risky and therefore more attractive, Ooredoo's cost of debt and/ or equity will increase which will have a profound effect on the Ooredoo's domestic and international business. The CRA should duly consider this aspect of any proposed regulations and reflect this consideration in the final decisions and specifications of wholesale remedies.

1.52 Under the proposed remedies, Ooredoo would effectively bear the risk associated with the demand for infrastructure access. Preparing the infrastructure for access is costly for Ooredoo. The CRA is currently not requiring VFQ to provide and commit to demand estimates, so that if VFQ's estimated access requirements are not fulfilled, Ooredoo bears all the cost. A situation in which Ooredoo is required to bear the demand risk associated with fibre, duct and collocation capacity proposed by the CRA through its wholesale remedies is untenable.

1.53 The wholesale remedies (including cost based obligations) requires Ooredoo to offer passive and active infrastructure elements as a 'service' in exchange for a periodic revenue stream that is effectively determined by the CRA (as opposed to the sale of long term rights of use in exchange for a capital sum). The requirement for reference offers and cost based obligations does not even allow Ooredoo to mitigate such risk through contractual mechanisms, as it is the case in other jurisdictions, such as long term commitments to capacity or the making of capital contribution by access seekers.

1.54 Ooredoo continues also to bear access deficit costs which have arisen due to government policy and the CRA's reluctance to address it. Whilst it may be unacceptable to raise certain tariffs, the CRA would be more than capable of compensating Ooredoo for bearing this cost, which is driven by alternative factors rather than the business or strategic imperatives of Ooredoo.

1.55 The risk arising from the sunk investment and services that are proposed by the CRA are wholly disproportionate to that to be borne by Ooredoo's competitors. The disparity of risk would represent a very significant distortion of competition and squarely discriminates against Ooredoo, contrary to Article 6 of the Telecommunications Law. Accordingly, the distortion must be removed by the withdrawal of both the dark fibre and active broadband services.

The cost of the proposed remedies has not been considered

1.56 The CRA has thus failed to take into account what the incremental benefit of each of the remedies proposed in M8 and M9 is. As a result, remedies are not proportionate and are excessively burdensome. Remedies should instead always be proportionate and appropriate, as also recognised by the TRA in Oman:

> *"The TRA will shape remedies and determine their intensity of application to ensure that the remedy is appropriate, reasonable and proportionate to the risk of harm from the dominance found to exist in the relevant market."*[20]

1.57 In order to assess the impact of the proposed remedies, the CRA should conduct a Regulatory Impact Assessment (RIA).

1.58 RIAs are used in many countries internationally as a tool to weight benefits of regulation to its cost. In Saudi Arabia, for example, in 2011 the CITC considered the introduction of

[20] TRA Oman, 2012. Market Definition and Dominance Guidelines, p. 18, available at https://www.tra.gov.om/pdf/10-mdd-guidelines.pdf

unified licensing and resale to promote competition and encourage growth of ICT services in the Kingdom. In considering the adoption of such measures, the CITC "prepared detailed impact assessments for both unified licensing and resale"[21].

1.59 Ofcom, in the UK, conducts RIAs for all major consultations. Indeed, in its 2005 Better Policy Making Ofcom states that:

> *"[Ofcom] believes Impact Assessments form a key part of best practice policy-making. We therefore expect Impact Assessments to be carried out in relation to the great majority of our policy decisions."*[22]

1.60 Ofcom uses the RIA to balance the cost of compliance with its policy proposals to the benefits accrued in the market:

> *"Producing an Impact Assessment is a key part of the policy-making process and should inform Ofcom's decision about whether to intervene and, if so, in what way."*[23]

1.61 This allows Ofcom to avoid remedies for which the incremental benefit to the market does not offset the cost of compliance to the SMP operator.

1.62 RIAs are also included in the 'Better Regulation Guidelines' of the European Commission (EC), where the EC states that:

> *"Before the European Commission proposes a new initiative, it assesses the need for EU action and the potential economic, social and environmental impacts of alternative policy options in an impact assessment."*[24]

1.63 The lack of a RIA undermines the robustness of the remedies proposed by the CRA. Further, the lack of a RIA has resulted in regulation being too strict in several markets as well as too many remedies being imposed, for example in M8 and M9. Ooredoo believes that the CRA should conduct a RIA before finalising the MDDD process. The CRA should use the results of the RIA to guide the design of an appropriate level of regulation that achieves its objectives, without over-regulating.

[21] http://www.citc.gov.sa/english/mediacenter/annualreport/documents/pr_rep_007eng.pdf
[22] Ofcom, 2005. "Better Policy Making: Ofcom's approach to Impact Assessment.", p. 6. http://stakeholders.ofcom.org.uk/binaries/consultations/better-policy-making/Better_Policy_Making.pdf.
[23] Ofcom, 2005. "Better Policy Making: Ofcom's approach to Impact Assessment.", p. 7.
[24] http://ec.europa.eu/smart-regulation/impact/index_en.htm

1.64 Further, Ooredoo believes that all market players should have the possibility to comment on the RIA, and to provide evidence of the expected costs of compliance of the proposed remedies.

"Open public consultation is essential for impact assessment" [25]

1.65 Therefore, Ooredoo expects the CRA to include a RIA in the next iteration of the Dominance assessment consultation and to ask market players for comments on the adopted methodology as well as the preliminary results.

Supply of dark fibre not supported on policy and legal grounds

1.66 While the regulatory framework expresses wholesale access obligations in broad terms, the regulatory framework does not impose completely unconstrained obligations of wholesale access on licensees. For example, Ooredoo considers that there is no clear legal basis for the CRA to require Ooredoo to provide wholesale access between Central Offices or to mobile base stations.

1.67 Article 20 of the Telecommunications Law provides that: "Any service provider must upon receiving a written request from another service provider **in respect to interconnection and access**, enter into negotiations in good faith with the service provider requesting such interconnection and access for the purpose of reaching an agreement on interconnection or access to…**provide access to telecommunications facilities** including central offices, other sites for equipment, emergency, towers, poles, **telecommunications lines** or and underground facilities, whenever necessary, in a reasonable manner in order to enable the service providers to provide their services to their customers". (our emphasis)

1.68 The wording of Article 20 is revealing. It defines access obligations by reference to "telecommunications lines", which are generally understood as being lines in the access network between a central office and end-user premises. Ooredoo's interpretation in this regard is confirmed by the Executive By-Law, which supplements and provides the basis for implementing the obligations that exist under the Telecommunications Law. In particular, Article 47 of the Executive By-Law provides that: "…a Service Provider shall, upon receipt of a written request by another Service Provider licensed to operate a telecommunications network, enter into good faith negotiations to reach interconnection or access agreement in order to achieve the following objectives…(2) **provide access to such telecommunications facilities**, including but not limited to central offices and other equipment locations, mast sites, towers, conduits, poles, **subscriber access lines** and

[25] http://ec.europa.eu/smart-regulation/guidelines/ug_chap1_en.htm

underground facilities, as are reasonably requested in order for the Service Providers to provide telecommunications service to their customers…". (our emphasis)

1.69 The use of the term "subscriber access lines" in the Executive By-Law confirms that the obligation on service providers to supply physical access to lines (where it is technically feasible to do so) does not extend to the core or backbone network level. The provision of dark fibre access at the backbone level, or to mobile base stations, would not involve the use of, or access to, "subscriber access lines".

1.70 This interpretation is also supported by the economic principles that underpin access regulation in the telecoms sector. Put simply, the purpose of access regulation is to facilitate competition in downstream markets by giving access seekers the ability to access bottlenecks which are not otherwise economically capable of duplication. This important economic underpinning is absent in the case of wholesale access to fibre connections to mobile base stations and inter-exchange fibre connections.

1.71 Fibre lines at the backbone or core network layer in Qatar where market is largely concentrated around Doha, do not represent an economic bottleneck in a conventional sense and Ooredoo's existing backbone infrastructure is readily capable of duplication by other licensees (and in fact has already been duplicated to some extent by VFQ). Whilst Ooredoo had entered into commercial arrangements with VFQ to enable VFQ's entry into the market, it had no regulatory obligation to do so.

1.72 Where duct access is made available by Ooredoo, which Ooredoo is obliged and committed to providing to both QNBN and VFQ, the costs of another licensee deploying their own backbone fibre infrastructure becomes significantly less than building from scratch. To this end, Ooredoo considers that its primary obligation should be to provide other licensees with duct access to facilitate the deployment of fibre lines by these licensees and to complement this obligation with the supply of leased lines.

Structure of this document

1.73 The remaining of this document is structured as follows:

- Section 2 discusses the specific response to the questions referring to the assessment of retail service related Candidate Markets.
- Section 3 discusses the specific response to the questions referring to the assessment of wholesale service related Candidate Markets.

- Section 4 discusses the specific response to the questions referring to the proposed remedies and the mapping of Ooredoo’s 2014 RAS services.
- Section 5 concludes.

2. Assessment of retail service related Candidate Markets

2.1 This section outlines Ooredoo's responses to the specific questions set out in the CRA consultation document with regards to retail Candidate Markets.

2.2 Questions have been aggregated by Candidate market, so that the TCT and the SMP assessment for each Candidate market are discussed together.

Questions 1 and 2

Question 1 - Do you agree with the Authority's application of the TCT to the markets for retail national fixed voice and broadband services (M1a, M1b and M1c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 2 - Do you agree with the Authority's preliminary findings of its dominance assessment in the Sub Markets for retail national fixed voice and broadband services (M1a, M1b and M1c), and its preliminary conclusion that Ooredoo remains a Dominant Service Provider (DSP) in these Sub Markets? Please explain your answer and provide any evidence supporting your response.

2.3 Market 1 is divided into three Candidate submarkets, which include both the residential and the business segment. These are:

- M1a – Retail national fixed access services
- M1b – Retail national fixed call services
- M1c – Retail fixed broadband services

2.4 The CRA considers that the market exhibits high barriers to entry as:

- Ooredoo is the only operator with a fixed access and core network with national coverage; and
- VFQ is dependent on wholesale services to provide fixed voice and broadband retail services (which it already provides in certain geographic areas).

2.5 The CRA further determined that stable market shares and prices in the market since 2011 are evidence of lack of competitive pressures. On this basis, the CRA concluded that the market is susceptible to ex-ante regulation and Ooredoo has SMP in all three submarkets.

2.6 While Ooredoo agrees with the preliminary results of the TCT conducted on M1a and M1b, Ooredoo does not agree with aspects of the application of the TCT to market M1c.

2.7 The CRA should have considered that the limited wholesale remedies currently in the market have already enabled some competition to emerge, by lowering barriers to entry.

2.8 For example, whilst the CRA notes that listed call prices have been relatively stable over time, the CRA does not offer any evidence on the price trend of retail broadband services. Had the CRA conducted such analysis, it would have found that while Ooredoo's listed broadband prices have remained stable, the service offer has been increasing[26] in response to growing competitive pressure. As is demonstrated by the table below, prices have remained unchanged between 2012 and 2016, while Ooredoo has introduced speed upgrades to their packages in 2015 and 2016, lowering the effective price of retail broadband packages.

[26] For example, Ooredoo announced free speed upgrades for their broadband customers in 2015 and 2016, see http://www.ooredoo.qa/portal/OoredooQatar/pr-fibre-free-speed-boost?p=1374098909304 and http://www.ooredoo.qa/portal/OoredooQatar/pr-fibre-upload-upgrade?p=1374098909304.

Table 2: Ooredoo retail broadband packages prices (in QR) and speed 2012-2016

Package	Connection fee (One-time charge at inception)	Double Play (Unlimited Internet and Landline package)	Triple Play (Unlimited Internet, Landline and IP)		Speed 2012	Speed 2014	Speed 2016
		Monthly recurring charge rate (2012-2016)	Set Top Box	Monthly recurring charge rate (2012-2016)			
Fibre Plan 1	Free of charge	233	Free of charge	250	1 Mbps	**10 Mbps**	10 Mbps
Fibre Plan 2	Free of charge	333	Free of charge	350	10 Mbps	**25 Mbps**	25 Mbps
Fibre Plan 3	Free of charge	500	Free of charge	550	50 Mbps	50 Mbps	**100 Mbps**
Fibre Plan 4	Free of charge	650	Free of charge	700	100 Mbps	100 Mbps	**300 Mbps**

Notes: Changes in speed are bolded. 2012 refers to prices as of 22 January 2012, 2014 to 7 October 2014, and 2016 to 3 February 2016.

2.9 Before imposing regulation at the retail level, the CRA would have therefore needed to discuss the relevant wholesale remedies and reconsider the existence of barriers to entry at the wholesale level, in light of such upstream remedies.

2.10 Ooredoo is of the opinion that, had the CRA applied the TCT iteratively in this market, in the manner set out above, it would have found that the TCT is not satisfied.

2.11 The most effective way of achieving competition at the retail level is through carefully-targeted wholesale access regulation which creates sufficient incentives on service providers to build their own infrastructure, combined with the ex-post competition law safeguards. When applied properly, wholesale access regulation and ex-post competition law allow for the creation of a level playing field for service providers at the retail level, allowing them to effectively compete with each other and thereby deliver the greatest benefits for consumers.

2.12 Conversely, heavy-handed retail price regulation could in principle dampen competition and innovation at the retail level, while increasing costs for service providers. There is a risk that retail price regulation might create precisely the opposite outcome to those that are in the long-term interests of end-users in Qatar.

2.13 Given the practical adverse effects of retail price regulation on the long-term interests of end users, it is unsurprising that globally there is a significant trend away from the use of retail price regulation.

2.14 For example, the UK provides an example of a jurisdiction that has been critical of retail price regulation and which removed such regulation almost a decade ago. For example, Oftel (the predecessor to Ofcom in the UK) noted as early as 2001 that retail price controls can lead to a range of negative consequences:[27]

> *"There are 3 main aspects to this concern; (i) in a market consisting of a limited number of influential players (commonly known as an oligopolistic market), visibility of tariffs published by each player may lead to tacit collusion to keep prices high, (ii) in a market dominated by one player, if the dominant player is obliged to publish its prices, smaller players may follow those prices rather than compete more boldly and (iii) the loss of first mover advantage, which is particularly apparent where a dominant player must provide advance notification of tariff changes, may remove the dominant player's incentive to compete on price; making it more profitable to maintain prices at a relatively high level in return for a modest loss of market share".*

2.15 Retail price regulation of BT (the incumbent operator) was removed in the UK in 2006.[28] In its decision to cease retail price controls, Ofcom stated that:[29]

> *"In reaching a conclusion concerning the expiry of the [Retail Price Controls] RPC, Ofcom has balanced the consequences of BT's continued market power*

[27] Oftel, BT's regulatory obligations to provide advance notification of price changes and to maintain a published price list, 28 June 2001, paragraphs 3.9 and 3.10.
28 Ofcom, Retail Price Controls, Explanatory Statement, 19 July 2006. See, http://stakeholders.ofcom.org.uk/binaries/consultations/retail/statement/rpcstatement.pdf

[29] Ofcom, *Retail Price Controls Explanatory Statement,* Ofcom, 19 July 2006, at paragraph 5.15.

in these markets with its view of the extent to which other factors – chiefly competitive pressure and other regulation – limits BT's ability to set excessive prices."

2.16 The decision to remove retail tariff regulation in these jurisdictions has occurred notwithstanding the existence of high retail market shares by the incumbent operator. For example, the decision by Ofcom and the former Dutch regulator, the Netherlands Independent Post and telecommunications Authority (OPTA), to remove retail price controls in respect of the residential fixed lines was made notwithstanding the fact that BT and KPN, the UK and Dutch fixed line incumbents respectively, had respective market shares of between 70-80% at that time.

2.17 Similarly, in Canada in 2006, which has traditionally had a history of excessive regulation in relation to fixed services, the Telecommunications Policy Review Panel, tasked with reviewing the country's telecommunications regulatory framework, held that:[30]:

"The requirement for ex-ante approval of tariff imposes certain regulatory costs on service providers. First the tariff approval process and the requirement for supporting documentation are administratively burdensome and costly to produce. Second, ex-ante approval of tariffs can introduce lengthy delays from the time a service provider makes a decision to introduce a service to the time when it can offer it to customers. At times in the past, such delays have extended for months or occasionally even years. However, the CRTC recently has introduced streamlined processes that can in some cases reduce the time to approve a tariff to a matter of ten days or so.

Nonetheless, in a rapidly evolving market, a delay of ten days, combined with the greater amount of time required to assemble the information necessary to comply with CRTC filing requirements, can impede a service provider's ability to respond to customer requests or to marketplace developments. This is especially true in a competitive 'bid' situation, where a counter-offer may have to be immediate to be of value. In these instances, any regulatory requirement to prepare tariff applications and to

[30] Canadian Telecommunications Policy Review Panel, *Final Report,* 2006, section 3.27. See, https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/tprp-final-report-2006.pdf/$FILE/tprp-final-report-2006.pdf

receive prior tariff approval can hinder competition and potentially deprive customers of lower prices."

2.18 While there are a number of regional markets that persist with retail price regulation, these jurisdictions do not represent international best practice and should not serve as the benchmark for Qatar. Qatar should be following the world's leading jurisdictions in developing its regulatory framework, rather than some regulatory outliers that have little, if any, intention of following the latest in regulatory thinking and regulatory design.

2.19 For example, in its previous recommendation on markets susceptible to ex-ante regulation, the European Commission (EC) emphasized the use of retail price regulation as an absolute last resort:[31]

> *"Regulatory controls on retail services should only be imposed where national regulatory authorities consider that relevant wholesale measures…would fail to achieve the objective of ensuring effective competition and the fulfilment of public interest objectives. By intervening at the wholesale level, including with remedies which may affect retail markets, Member States can ensure that as much of the value chain is open to normal competition processes as possible, thereby delivering the best outcomes for end-users."*

2.20 At present, only wholesale markets are contained in this list, and the European Commission does not currently recommend the imposition of ex-ante regulation on any retail communications markets.

2.21 Most importantly, in the European Commission's explanatory document accompanying its decision, the EC went even further, discounting the need to even have effective wholesale regulation in place before retail regulation can be lifted, as innovation and competition from new sources, such as OTT players, means that some markets can be competitive even in the absence of wholesale regulation. It stated:[32]

[31] European Commission, *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*, Articles 4 and 15. See also European Regulators' Group (ERG), *Common Position on the approach to appropriate remedies in the new regulatory framework*, ERG (06) 30rev1, page 49.

[32] European Commission, Commission recommendation of 9.10.2014 on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with

> ***"It is likely that national regulatory authorities will gradually be able to find retail markets to be competitive even in the absence of wholesale regulation, especially taking into account expected improvements in innovation and competition"***. (our emphasis)

2.22 As discussed further in Section 2 of this document, the Qatari market shows signs of increasing competition and innovation thanks to OTTs, which in the future may contribute to the establishment of a fully competitive environment in the absence of regulation.

2.23 This recent decision from the European Commission is the culmination of a significant shift in regulatory thinking over more than a decade.

2.24 From the above, it is clear that:

- Retail price regulation raises a range of very serious issues for the competitive process, including the risk of tacit collusion to keep prices high, a dampening of competitive rivalry and pricing innovation at the retail level, the loss of incentive for a first-mover to compete on price, and a range of administrative costs and inefficiencies on service providers;
- Retail price regulation no longer reflects international best practice and has largely been removed in best practice jurisdictions, including in fixed markets in which incumbent operators continued to have very high market shares at the time of the removal of retail price regulation; and
- The most recent regulatory thinking from the European Commission supports the removal of retail price regulation, even in the absence of effective wholesale regulation, as innovation and competition from new sources, such as OTT players, means that retails markets can be competitive even in the absence of wholesale regulation.

Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, Brussels, 9.10.2014, C(2014) 7174 final, page 2. See, http://ec.europa.eu/information_society/newsroom/cf/dae/document.cfm?action=display&doc_id=7045

Question 3

Do you agree with the Authority's preliminary findings of its dominance assessment in the Sub Markets for retail international outgoing call services from a fixed location (M2a and M2b), and its preliminary conclusion that Ooredoo remains a DSP in this Sub Market? Please explain your answer and provide any evidence supporting your response.

2.25 In the 2011 MDDD, a single product market for international outgoing call services was defined, which included both calls from fixed and mobile networks, for residential and business customers. In Phase I of the current MDDD[33], the CRA updated the market definitions and applied the TCT test on fixed and mobile international outgoing call markets separately.

2.26 While international outgoing call services from mobile were found not to be susceptible to ex-ante regulation, fixed international outgoing calling was instead deemed to be a Relevant market (M2). The CRA justified this decision on the basis that competition in this market is weak and there are high non-transitory barriers to entry.

2.27 M2a and M2b are the markets for international outgoing call services at a fixed location for residential and business customers, respectively.

2.28 Before addressing the dominance assessment conducted in M2a and M2b, Ooredoo's position on the definition of the Candidate market and the TCT performed in Phase I of the MDDD on these markets is repeated.

Definition of Candidate market for international outgoing call services

2.29 As outlined in the response to the Phase I of the current MDDD, Ooredoo disagrees with the definition of the market for international outgoing calls. In particular, Ooredoo, is concerned by the conclusion that fixed and mobile IDD services constitutes different candidate markets. Smartphone penetration has risen rapidly the past few years, from [redacted] in 2011 to [redacted] in 2013.[34] This has contributed to speed up the migration of traffic from fixed to mobile technologies. As shown in Table 3 below, total fixed international calls and

[33] See CRA 2015/05/12NC.

[34] Data from "Qatar's ICT Landscape 2011 and 2014". 2011 data also include PDA devices. Documents available at: http://www.ictqatar.qa/en/documents/download/Qatar_s_Digital_Media_Landscape_2011.pdf and http://www.ictqatar.qa/en/documents/download/Qatar's%20ICT%20Landscape%20Report%202014-Household%20and%20Individuals_12.pdf

mobile international call minutes per subscriber have decreased by 51% and 17% respectively between Q1 2011 and Q4 2015. This is despite the fact that the number of fixed line subscribers increased by 15% and retail prices for fixed international calling remained stable throughout the same time period. The declining volumes of fixed call minutes despite the increased subscriber base suggest that service substitution is taking place. In the same time period international calls from mobile increased by 19%. While the price for international mobile calls decreased by 55% between 2011 and 2015 the calling minutes per subscriber did not increase as a result, in fact they decreased by 17%.

Table 3: Fixed and mobile outgoing international calls Q1 2010/Q2 2015

Variable	Q1 2011	Q4 2015	Percentage change
Number of fixed lines (DEL)	[redacted]	[redacted]	[redacted]
Fixed international calls (minutes)	[redacted]	[redacted]	[redacted]
Fixed international minutes per subscriber	[redacted]	[redacted]	[redacted]
Number of mobile subscribers	[redacted]	[redacted]	[redacted]
Mobile international calls (minutes)	[redacted]	[redacted]	[redacted]
Mobile international minutes per subscriber	[redacted]	[redacted]	[redacted]

*This excludes India. In Q3/4 of 2015, due to a very large price reduction the call minutes to India almost doubled, this does not reflect the trend on all other countries.

2.30 This suggests that the decline in fixed line usage has not been correspondingly off-set by the increase in mobile voice usage. Rather, there are indications that the usage of mobile services is being substituted by OTT services. While the number of mobile subscribers and the total mobile international minutes increased, the decrease in minutes per subscriber suggests that the usage pattern of the average customer has changed. While mobile phone uptake has increased, usage has been diverted from traditional mobile services towards mobile-based OTT services.

2.31 For the Q1 2012 - Q4 2014 time period, traditional mobile international voice usage per subscriber decreased by [redacted] or by [redacted] minutes per subscriber per quarter, despite significant retail price decrease (as mentioned above).

Table 4: Ooredoo traditional mobile international calls vs Mobile-based VoIP international calls

Variable	Q1 2012	Q4 2014	Percentage change
Subscribers	[redacted]	[redacted]	[redacted]

Variable	Q1 2012	Q4 2014	Percentage change
Mobile-based VoIP international number of minutes	[redacted]	[redacted]	[redacted]
Mobile-based VoIP international minutes per subscriber per quarter	[redacted]	[redacted]	[redacted]
Traditional mobile international number of minutes	[redacted]	[redacted]	[redacted]
Traditional mobile international minutes per subscriber per quarter	[redacted]	[redacted]	[redacted]

2.32 During the same time period the volume of VoIP calls (using the mobile network) increased by 153% or 323 minutes per subscriber and the total minutes of VoIP calls increased by 176%. Mobile-based VoIP traffic overtook traditional mobile international voice traffic in Q2 2013 and the trend is increasing. Thus, increased VoIP traffic is driving traffic from fixed voice services towards increased usage of mobile and mobile applications.

Figure 1: Mobile-based VoIP vs traditional mobile international voice

[redacted]

Source: Ooredoo and Skype data.

2.33 In addition, a survey undertaken by Nielsen Market Research on behalf of Ooredoo showed that smartphone users spend more time on OTT voice services than on traditional voice services. The survey used the meter device installed in smartphone devices of a representative sample of Ooredoo’s and VFQ’s customers in Qatar. In addition, data revealed that users spent most of their “smartphone” time on communication via OTT messaging applications. This finding provides additional explanation for the decline in mobile national and international voice usage per subscriber as evidence above. The increasing penetration of smartphone devices leads to traditional voice and SMS usage declining and being replaced by intensive use of mobile messaging and VoIP applications. The convergence of communications means and customers’ communication usage patterns make the distinction and substitution between calling and messaging services obsolete and difficult.

Figure 2: Nielsen Market Research Survey

[redacted]

2.34 Therefore, Ooredoo would like to reiterate that in light of the increasing fixed-to-mobile substitution the definition of separate markets for international outgoing calls from fixed and mobile location is incorrect. Further, the definition of separate markets contributed to the wrong assessment of Relevance of the M2a and M2b, which is discussed in more details below.

Assessment of Relevant market

2.35 Ooredoo disagrees with the conclusions drawn by the CRA from the application of the TCT in M2a and M2b. This is because M2a and M2b clearly show a tendency towards competition. As Ooredoo has already discussed in its response to the Phase I MDDD consultation, the level of competition in the markets is already significant. Competition from VoIP services is high and increasing, as penetration of smartphones and fixed broadband increases. The increasing competition by VoIP is demonstrated by the decrease in minutes of use and retail price of Ooredoo's international calls from fixed lines. For example, just between 2012 and 2013 total minutes from Ooredoo's fixed lines to international (fixed and mobile destinations) decreased by [redacted].

2.36 Moreover, if the market had been correctly defined as to include international calls from both fixed and mobile locations, the competitive pressures from OTTs had been more visible. Indeed, while OTTs services can be accessed both from fixed and mobile broadband, the competitive pressures posed by Mobile VoIP and Fixed VoIP on international calls from fixed and mobile locations are very similar.

Dominance assessment

2.37 The CRA determined that Ooredoo has SMP in both M2a and M2b on the basis that:

- Ooredoo is the only nationwide provider of international outgoing calls from a fixed location and the owner of the only national fixed access and core network.
- While Ooredoo's volumes of international outgoing calls have decreased substantially in the past few years, Ooredoo still retains the vast majority of market shares and its revenues per minute have not decreased.

2.38 As discussed above, Ooredoo disagrees with the CRA conclusion that M2a and M2b are Relevant markets, on the grounds that the markets are already competitive, as OTTs pose high competitive pressures on Ooredoo. Further, dominance should be reassessed from a forward-looking perspective, thus considering that competitive pressures from OTTs will continue to increase.

2.39 Evidence shows that Ooredoo has lost more than [redacted] of traffic and revenues from international calls at a fixed location between the first quarter of 2011 and the first quarter of 2015. In the same period, Ooredoo has kept the price for fixed IDD calls approximately constant. However, this is not due to lack of competitive pressure, as erroneously assumed by the CRA. Rather, this was a commercial decision, based on the fact that the price gap between current IDD tariffs and OTTs' tariffs is so large that any marginal reduction in IDD's prices would not have stopped the migration of traffic to OTTs in any case. Therefore, Ooredoo has taken the view that since traffic migration to OTTs is inevitable, price reductions would only accelerate the decrease in revenues and profits from this market which is occurring in any case. This is not evidence of lack of competition. Quite the opposite, it is a commercial response in light of very effective competition from OTTs.

2.40 As Table 5 below shows, for example, the IDD tariff for a minute call to the UK from Qatar is ten times higher than Skype's rate and the IDD tariff for a minute call to the UK from UAE is 36 times higher than Skype's rate. These differences are largely justified on the basis of:

- The fact that OTTs are able to provide the service without incurring the large fixed costs of owning a network; and
- The quality difference between international calls offered by traditional carriers and those offered by OTTs.

Table 5: Residential domestic and international outgoing calling prices to landlines, in QR

Provider	On-net call price per minute[35]	Off-net call price per minute			Off-net package call price per minute and number of minutes		
		USA	UK	Saudi Arabia	USA	UK	Saudi Arabia
Ooredoo Qatar	Free	1.64	1.64	1.08	0.54 per minute up to 35 minutes per month		

[35] For Skype and Viber On-net calls refers to calls to other Skype/Viber users.

Etisalat UAE	Free	5.73	5.73	5.73	Not offered[36]		
Skype	Free	0.16	0.16	1.21	0.05 per minute up to 400 minutes per month	0.05 per minute up to 400 minutes per month	0.44 per minute up to 60 minutes per month
Viber	Free	0.08	0.08	0.83	Not offered		
WhatsApp	Free & unlimited	Not offered					
Facebook messenger	Free & unlimited	Not offered					

Source: Ooredoo[37], Etisalat[38], Skype[39], Viber[40], WhatsApp[41], Facebook Messenger[42] and Oanda.[43]
Notes:

Ooredoo Qatar – The call price per minute refers to off-peak prices. In addition to the minute price, a one-time connection fee of QR200 is charged as well as a monthly charge of QR33.

Etisalat UAE – The rates to the USA, UK and Saudi Arabia are for the 1 Fils per second plan. Rates outside the plan are QR20.23, Qr25.67 and QR20.23, respectively.

Skype – On-net refers to calls to another Skype user. Skype calling includes a connection and a charge per minute of call (this amounts to 0.178 QR for calls to the US and the UK and 0.324 for calls to Saudi Arabia). The effective price per minute of call is calculated on the basis of a three minute call. The three minute assumption is sourced from the CRA. For the packages, effective call prices

[36] Prepaid calling cards, however, are offered. See http://www.etisalat.ae/nrd/en/generic/prepaid_calling_cards.jsp.
[37] http://www.ooredoo.qa/portal/OoredooQatar/landlines-calling-services and http://www.ooredoo.qa/portal/OoredooQatar/hala-international.
[38] http://www.etisalat.ae/nrd/en/generic/postpaid_landline.jsp
[39] https://secure.skype.com/en/calling-rates
[40] https://account.viber.com/en/rates/
[41] https://www.whatsapp.com/faq/en/android/28000016
[42] https://www.messenger.com/features
[43] http://www.oanda.com/currency/historical-rates/

per minute are calculated by dividing the maximum number of minutes available in a month under the plan by the monthly cost of the plan.

Viber – On-net refers to calls to another Viber user.

All prices are expressed in Qatari Rial. Prices in other currencies was converted into Qatari Rial using a one year average exchange rate (25 February 2015-25 February 2016).

For the off-net packages, the prices and minutes are quoted for the packages with lowest monthly cost.

2.41 As Table 5 shows, the large difference between IDD and OTTs' tariffs is far from being a Qatari exception, as a similar trend is found in the UAE. Lower OTT prices compared to traditional carriers IDD tariffs have been observed in numerous other countries, such as India[44], and OTTs competitive pressures have been found to affect telecom operators revenues in many countries, such as in China, where China Mobile's, the world largest operator, attributed a sharp fall in profits in Q1 2014 to OTT services.[45]

2.42 Internationally, many regulators have considered the impact of OTT services on traditional voice telephony services in the market definition. In a study on OTT services BEREC, the regulatory agency for the telecommunications market in the European Union, noted that all regulators who responded to the study data request had considered the impact of OTT services on traditional voice telephony services when identifying the relevant markets.[46] For example, already in 2005 BNtzA, the German regulator, included VoIP services in the call market, claiming that when assessed with a view to on-going technological developments OTTs were effectively to be considered substitute to traditional carriers.[47] The European Commission supported BNetzA's position with regard to these innovative services as it believes it boosts competition in fixed-line telephony markets.[48] In addition,

[44] Sujata et al, 2015. *Impact of Over the Top (OTT) Services on Telecom Service providers.* Indian Journal of Science and Technology, Vol 8(S4): 145-160.
[45] Ibid.
[46] BEREC, January 2016. Report on OTT services: BoR (16) 35. Available at http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/5751-berec-report-on-ott-services_0.pdf.
[47] EC Press Release, 2005, http://europa.eu/rapid/press-release_IP-05-1707_en.htm?locale=en.

the Austrian regulator included Voice over Broadband (VOB) in the market definition of fixed calling access, for both residential and non-residential customers.[49]

2.43 Further in the Recommendation on Relevant Markets, the European Commission concluded that VoIP-based services and traditional PSTN-based services belonged to the same relevant market.[50]

2.44 Therefore, Ooredoo believes that the market definition in M2 and the TCT and SMP assessments in M2a and M2b are incorrect as mobile and fixed should have been considered in the same market, and the submarkets are already competitive and thus they are not susceptible to any ex-ante regulation. Ooredoo urges the CRA to revise its analysis in light of the evidence provided by Ooredoo in this response.

Questions 4 and 5

Question 4 - Do you agree with the Authority's application of the TCT to markets for retail national leased lines services (M3), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 5 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail national leased lines services (M3), and its preliminary conclusion that that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

2.45 VFQ and Ooredoo are both active in the retail national leased lines market, with VFQ mostly relying on QNBN's network to provide these services.

2.46 The CRA concludes that VFQ's continued small market share is evidence of the fact that it does not have "truly equality of access" and therefore the market should be susceptible to ex-ante retail remedies. Stable market shares and prices over time are taken by the CRA as additional evidence.

[49] See RTR Decision M 1.3/12-92 and Decision M.1.4/12-92 available at https://www.rtr.at/en/tk/M1_3_12/32045_M_1.3_2012_Bescheid.pdf and https://www.rtr.at/en/tk/M1_4_12/32046_M_1.4_2012_Bescheid.pdf.

[50] European Commission (DG Connect)/ECORYS, 2013. Future electronic communications markets subject to ex-ante regulation. Available at http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=3148.

2.47 The CRA concludes that Ooredoo is dominant in M3 on the basis of Ooredoo's large market shares, the high barriers to VFQ's expansion linked to the cost of deploying a fixed access network and the absence of countervailing buying power.

2.48 Ooredoo disagrees with the CRA's application of the TCT and its preliminary conclusions, as, when correctly applied, the TCT would suggest that the proposed wholesale remedies would be sufficient to ensure competition in the market. Therefore, no ex-ante retail regulation is needed.

2.49 As recognised by the CRA in its consultation document, "for VFQ there are no barriers to expansion, if it has genuine non-discriminatory access to Ooredoo's fixed access network infrastructure or QNBN's passive infrastructure".

2.50 However, the CRA should have considered these wholesale services before concluding that retail regulation is also required. The CRA has not presented any evidence of such analysis. As the TCT should always be conducted iteratively, as discussed in Section 1, it should be concluded that the market should not be subject to any ex-ante regulation, other than that contemplated in the Relevant wholesale markets.

Questions 6 and 7

Question 6 - Do you agree with the Authority's application of the TCT to markets for retail international leased lines services (M4), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 7 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail international leased lines services (M4), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

2.51 The CRA finds M4 to be susceptible to ex-ante regulation on the basis that Ooredoo is in control of key infrastructure, and that stable market shares indicate lack of competition and competition policy alone is not expected to be sufficient to prevent anti-competitive behaviour. Further, the CRA finds Ooredoo dominant in M4 on the basis of its large market share and ownership of infrastructure.

2.52 Ooredoo disagrees with the CRA's preliminary conclusions from the application of the TCT in M4. Of the three criteria that a market should pass to justify application of ex-ante regulation, at least two fail in the context of M4. Therefore, the market is not susceptible to any ex-ante regulation.

2.53 In M4 the CRA recognises that some competition might arise from international operators who have Point of Presence (PoPs) in Qatar, but dismisses this as it has not received any evidence on the number or value of international leased lines sold by these providers in Qatar. Ooredoo is concerned by the CRA's claim that no evidence has been provided on the activity of international operators in Qatar, as Ooredoo has duly answered both the CRA's 3rd January 2016 letter and the 15th February 2016 letter and provided extensive evidence in this regard.

2.54 While Ooredoo refers to its response to the abovementioned letters for complete information on competitiveness of the international leased lines market in Qatar, some extracts are presented below as evidence.

2.55 Figure 3 below provides the distribution of all business customers in Qatar using international connectivity services which are connected through Ooredoo's local network. These customers can use either the International Private Leased Circuits (IPLC) service or Global Ethernet IP VPN services. Moreover these services can be provided to customers directly either by Ooredoo or Other Service Providers (OSP). The figure shows that:

- [redacted] of these customers are served solely by Ooredoo;
- [redacted] of these customers are served jointly by Ooredoo and OSPs (having direct commercial relationship with these customers);
- [redacted] of these customers are served by one of the OSPs having direct commercial relationship with these customers; and
- [redacted] of these customers are served by more than one OSP at the same time.

Figure 3: Distribution of all business customers, IPLC and Global VPN

[redacted]

2.56 The CRA also acknowledges evidence of decreasing prices provided by Ooredoo, but does not interpret this evidence as genuine price reductions, but rather as evidence of changing mix of services provided.

2.57 However, as shown by the three figures below, prices for international private leased circuits (IPLC) and Internet Protocol Virtual Private Network (IPVPN) show a downward trend even when speed and service level agreements (SLAs) are accounted for. In the figures, average revenue per leased line (labelled as "ARPU E1") is reported for a series of products, defined by a particular speed and SLA. As SLA and speed are the only two variables determining the service mix, the figures below effectively show that effective prices for international leased lines services have decreased between 2012 and 2015.

Figure 4: Ooredoo average revenue per E1 leased line for Global Ethernet and Global IPVPN, 2012-2015

[redacted]

Figure 5: Ooredoo average revenue per E1 leased line for low speed IPLC, 2012-2015

[redacted]

Figure 6: Ooredoo average revenue per E1 leased line for high speed IPLC, 2012-2015

[redacted]

2.58 As already argued by Ooredoo, these price declines have been driven by competition pressures from OSP's for the provision of international connectivity services through their direct participation in the competitive bids used by business customers in Qatar to select the provider of the international connectivity services. Indeed, currently in Qatar there are over 15 international service providers whose PoPs are hosted in Qatar by Ooredoo. Hence, price decreases within service mix suggest that the market is already competitive.

2.59 In addition, Ooredoo lacks a network of international services and has a limited number of PoPs outside of Qatar. VFQ, on the other hand, has a large international network with hundreds of PoPs established (Cable & Wireless is part of VFQ's network). As most international companies with branches in Qatar initiate bids for international connectivity at their headquarters abroad, VFQ is in a better position to gain market share in this market than Ooredoo. For example, Ooredoo recently lost a bid for international connectivity for the US army base in Qatar to Batelco who was bidding jointly with VFQ. Thus, the bid offer of Batelco was not dependent on Ooredoo's local connectivity. Similarly, when Bloomberg was establishing its regional office in Qatar it approached Ooredoo Qatar with a request to provide the connectivity with Qatar and UAE, where Bloomberg already had established a regional centre. However, when Ooredoo offered connectivity at regulated prices Bloomberg declined the offer and opted for a less costly service from BT providing direct connectivity between Qatar and the UK.

2.60 In summary, VFQ, helped by the acquisition of Cable & Wireless global network, has successfully built an international network, establishing POPs in numerous countries. Vodafone Global infrastructure[51], which is much larger than Ooredoo's, is connected to five cables in Qatar at two different locations, and hence VFQ does not need redundancy from Ooredoo. The fact that Vodafone has an established large global network of international connectivity with numerous POP's across the globe provides VFQ with significant long term scale and cost advantage in the retail market for international connectivity in Qatar. The CRA claims on page 65 of the consultation document that VFQ remains dependent on access to Ooredoo's (international gateway) facilities for some of its connectivity. Ooredoo is not aware of this and simply considers this statement to be incorrect and not supported by tangible evidence. Overall, VFQ can already offer international connectivity to Qatari customers competitively.

2.61 The CRA also expresses concerns that competition might be limited by licencing restrictions on international operators. However, Ooredoo believes that this is not the case, as demonstrated by the fact that currently [redacted] international carriers operate in Qatar, without a licence system being in place. Indeed, simply establishing the billing relationship with their Qatari clients outside Qatar, these carriers can effectively operate in Qatar and thus compete with Ooredoo, putting pressure on the price for international leased lines, which have decreased significantly in recent years, as evidenced by the figures 4, 5, and 6 above.

2.62 Therefore, Ooredoo believes the market does not pass the TCT and thus the imposition of ex-ante remedies in M4 is not justified.

Question 8

[51] http://globalnetworkmap.vodafone.com/?location=25.61923942714341,51.34460449218749,8

Do you agree with the Authority's findings that the markets for retail national mobile voice and broadband services (M5a and M5b) are not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

2.63 Ooredoo agrees with the finding that M5a and M5b are not susceptible to ex-ante regulation.

3. Assessment of wholesale service related Candidate Markets

3.1 This section provides Ooredoo's response to the specific questions set out in the CRA consultation document with regards to the changes to the wholesale Candidate Markets.

Questions 9 and 10

Question 9 - Do you agree with the Authority's application of the TCT to markets for wholesale call origination on public telecommunications networks at a fixed location (M6), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 10 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale call origination on public telecommunications networks at a fixed location (M6), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

3.2 Ooredoo accepts the CRA's preliminary conclusion on ex-ante regulation and dominance assessment for M6 that find the market susceptible to ex-ante regulation and Ooredoo's dominance in market.

3.3 However, Ooredoo highlights the importance of continued dialogue and separate consultation by the CRA on the specific aspects of the remedy, including the basis for any regulated price. This is further discussed is Section 4 of this document.

Questions 11 and 12

Question 11 - Do you agree with the Authority's application of the TCT to markets for wholesale termination on individual telecommunications networks at a fixed location (M7), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 12 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual telecommunications networks at a fixed location (M7), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in termination on their own networks? Please explain your answer and provide any evidence supporting your response.

3.4 Ooredoo accepts the CRA's preliminary conclusions on ex-ante regulation in M7. Ooredoo also agrees with the CRA in its determination that network operators are dominant in the market for call termination on their own networks, as this is consistent with international experience.

3.5 However, Ooredoo is disappointed to note that the CRA in its analysis has not taken into sufficient consideration the potential impact of OTT services. Under current arrangements, OTTs are allowed to terminate calls on NSP's networks without incurring termination charges.

3.6 This enables OTTs to put significant competitive pressures on network operators, and creates uneven competitive conditions in the market.

3.7 Ooredoo invites the CRA to reconsider this issue and consider the need to require OTTs to bear the cost of call termination on the network they utilise to carry their voice traffic.

3.8 Further, as for call origination discussed above, Ooredoo highlights the importance of continued dialogue and separate consultation by the CRA on the specific aspects of the remedy, including the basis for any regulated price. This is further discussed is Section 4 of this document.

Question 13

Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space (M8a), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

3.9 Ooredoo agrees with the CRA preliminary conclusion that M8a is not susceptible to ex-ante regulation based on the analysis and evidence presented by the CRA.

Questions 14 and 15

Question 14 - Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 15 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

3.10 The CRA found that M8b is susceptible to ex-ante regulation on the basis that significant investment is required to build infrastructure, Ooredoo might be able to exploit market power, and competition law itself is insufficient to address anti-competitive issues.

3.11 The CRA further concludes that Ooredoo is dominant in M8b on the basis that Ooredoo is the largest supplier of dark fibre, the high costs associated with roll-out of new fibre act as barriers to VFQ, and VFQ is unlikely to be able to exercise any countervailing buyer power.

3.12 Ooredoo does not believe that the analysis and evidence presented by the CRA is appropriate or sufficient to draw the CRA's hasty conclusions on whether the market is relevant or on the dominance assessment.

3.13 In fact, to the extent that any evidence is presented, the CRA's analysis demonstrates that QNBN is in fact the largest supplier of dark fibre. Nevertheless, the CRA states, without providing any supporting evidence, that Ooredoo's fibre network "is likely" to be the most expansive in Qatar and therefore Ooredoo "is likely" to have the largest spare capacity in its network and therefore must have the largest share of available dark fibre. This claim, as it has not been supported by evidence, must be regarded as unsubstantiated and cannot be the basis of any regulatory action. This would be an arbitrary decision, inconsistent with the CRA's statutory duties and regulatory best practice.

3.14 Notwithstanding the above, Ooredoo reiterates that technical specifications make Ooredoo unable to provide dark fibre, as highlighted in its response to the Market definition consultation. This is further discussed in section 4 of this document.

3.15 For the reasons outlined above, Ooredoo does not agree with the CRA's dominance assessment and its preliminary conclusion determining Ooredoo DSP. As stated above, on the basis of the very limited evidence provided by the CRA, M8b should not be susceptible to ex-ante regulation. In any case, even if it was to be accepted that a dominance assessment was to be conducted in M8b, Ooredoo believes that the dominance assessment conducted by the CRA is not correct for a number of reasons:

- It is unclear why QNBN, which was established with the mandate to be the wholesale provider of dark fibre in Qatar, is not found to be dominant in the market. QNBN has network infrastructure in Barwa City, Barwa Commercial, and in parts of West Bay.[52] In addition, network infrastructure deployment is to begin this year in four districts of Doha.[53]
- The CRA came to its preliminary conclusion on the presumption that Ooredoo "is likely" to have the most expansive network and have the largest spare capacity and the largest share of dark fibre in Qatar. As discussed above, no evidence was provided to support this conclusion.

3.16 In summary, Ooredoo invites the CRA to reconsider its conclusions in relation to this market, which are not based on evidence and seem arbitrary.

[52] CRA, Market definition consultation, p. 26.
[53] See http://qnbn.qa/follow-the-progress/

Questions 16 and 17

Question 16 - Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 17 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

3.17 Ooredoo broadly agrees with the preliminary conclusion that M8c is susceptible to ex-ante regulation and accepts the CRA's preliminary conclusion that Ooredoo has SMP in M8c.

3.18 However, Ooredoo believes that the CRA has not sufficiently assessed the costs and benefits of imposing regulation in this market, especially in light of the remedies it has proposed on other wholesale markets, such as M9, and the fact that duct regulation is extremely burdensome. This is further discussed in Ooredoo's answer to Question 30.

3.19 Ooredoo will nevertheless continue to provide access to its ducts for network deployment where feasible. Ooredoo considers that the terms should continue to be governed by the existing Reference offer or the final and agreed RIAO. However as said above the obligation to provide the access to ducts should not be imposed only on Ooredoo but equally on QNBN, VFQ and other entities building ducts in Qatar.

Questions 18 and 19

Question 18 - Do you agree with the Authority's application of the TCT to markets for access to international gateway facilities required to gain international connectivity (M8d), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 19 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for access to international gateway facilities required to gain international connectivity (M8d), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

3.20 There are currently several international gateways facilities in Qatar, owned by Ooredoo and VFQ. On the basis of information provided by the operators, the CRA considers that the current capacity at these facilities is sufficient to cater for current and expected future needs in Qatar. However, the CRA still concludes that the market is susceptible to ex-ante regulation.

3.21 Ooredoo disagrees with the CRA's preliminary conclusions that the market is susceptible to ex-ante regulation as the analysis presented by the CRA includes several contradictory statements and conclusions.

3.22 In the Dominance assessment consultation document, the CRA concludes that, on the basis of the recent market trends, the market "is not susceptible to ex-ante regulation"[54]. The CRA further states that "it is not aware of either NSP facing any barrier to expansion at this point in time"[55] and that "the Authority's view is that competition law will be sufficient to intervene in this market should any anti-competitive behaviour arise"[56]. This suggests that at least two of the three criteria in the TCT are not met, and thus the market clearly fails the TCT.

3.23 However, the CRA then contradicts the conclusions to this analysis by stating that since VFQ relies on access to Ooredoo's cable landing stations (CLS) the market is Relevant and should thus be subject to ex-ante regulation. VFQ does not currently rely on Ooredoo's

[54] Dominance assessment consultation p.64
[55] Dominance assessment consultation p.64
[56] Dominance assessment consultation p.64

CLS. VFQ had requested on 18 June 2012 to terminate the CLS Managed Access Agreement signed by both parties on 18 October 2009.

3.24 Ooredoo is greatly concerned by the claim put forward by the CRA that VFQ relies on access to Ooredoo's CLS. As a matter of fact, VFQ does not use Ooredoo's CLS anymore. If persisting in this claim, the CRA should provide evidence to substantiate the claim that VFQ is reliant on Ooredoo's CLS, e.g. by providing invoice evidence.

3.25 While the CRA notes that further international connectivity is scheduled through the development of the Asia-Africa-Europe 1 (AAE-1), the CRA fails to take into account the international cable system Middle East-Europe Terrestrial System (MEETS) that is to be built by a consortium of GCC telecommunications operators, among which VFQ. MEETS will connect Qatar, the UAE, Saudi Arabia, and Kuwait with Turkey and Europe and will include a landing station in Qatar run by VFQ.[57]

3.26 On the basis of the analysis and statements reported by the CRA, there does not appear to be any reason why the market should be subject to ex-ante regulation. No real market failure that needs to be addressed by ex-ante regulation has been identified by the CRA. Further, Ooredoo is concerned by the lack of clarity in the CRA's analysis of this market. Ooredoo believes that the CRA's initial conclusion that M8d is not susceptible to ex-ante regulation is correct and therefore there is no need for a dominance assessment in this market.

[57] http://www.zain.com/en/media-center/press-releases/enabling-a-better-internet-experience-across-the-middle-east-gcc-based-telecoms-consortium-announces-meets-a-high-bandwidth-regional-cable-system/ and https://www.telegeography.com/press/press-releases/2013/10/02/middle-east-operators-plot-a-new-path-to-europe/index.html

Questions 20 and 21

Question 20 - Do you agree with the Authority's application of the TCT to markets for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 21 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response

3.27 The CRA reached the preliminary conclusion that M9 is susceptible to ex-ante regulation on the basis that:

- The market exhibits high and non-transitory barriers to entry due to high network deployment costs and regulatory barriers;
- The market is highly concentrated and pressure on prices appear to be low; and
- Competition law is believed to be being insufficient to control anti-competitive behaviours.

3.28 Further, the CRA finds Ooredoo to be dominant on the grounds that Ooredoo is the only operator in the market and controls the infrastructure needed to provide wholesale broadband services in Qatar. In addition, the CRA believes that VFQ is unlikely to be able to exercise countervailing buyer power.

3.29 Ooredoo broadly agrees with the CRA's preliminary finding that the market is Relevant. However, the CRA has not sufficiently evidenced why Ooredoo is the only operator to be found to have SMP in the market. CRA's own evidence shows that QNBN also controls essential infrastructure in certain geographic areas and therefore arguably should be subject to the same regulatory obligations. Internationally, geographic differences in network roll-out have been acknowledged by regulators in several instances, and remedies have been appropriately defined to reflect these differences. The recent Passive Civil Infrastructure Regulation obliges developers and other stakeholders to provide a standard access offer to the market. Given that such an obligation is normally placed on dominant service providers, it would appear that the CRA has recognized the principle of geographic markets.

3.30 For example, in the UAE the TRA, the telecommunications regulator, defined remedies for both Etisalat, the incumbent, and Du, a smaller operator with limited network roll-out.[58]

3.31 Each operator has to provide access on its network. This decision was made considering the relative lack of overlap in network coverage between Du and Etisalat.[59] The two networks had previously constituted separate geographic monopolies.

3.32 Similarly, in the UK Ofcom identified three separate areas with differing competitive conditions: Part A with no more than two principal operators, Part B where there is effective competition, and Hull where Kcom is the only operator.[60] While BT was deemed to have SMP in Part A, Ofcom acknowledged that the competitive conditions in the Hull were different from the rest of the UK. As a result, Kcom, a relatively small operator, was awarded SMP status in the Hull market and required to provide access to its infrastructure.

3.33 In light of this evidence, Ooredoo continues to reiterate that the CRA's decision to ignore geographic differences in competitive conditions has led to fundamentally wrong conclusions on dominance designation. Further, if remedies are to be applied in the market, these should apply to both Ooredoo and QNBN. Moreover the CRA have not addressed the root cause of the market failure, i.e. the fact that VFQ have chosen not to invest and not to comply with its license obligations. The CRA in its identification of market remedies focus only on Ooredoo's obligations but ignores license obligations of other licensed service providers.

3.34 Further, the CRA has not sufficiently considered the appropriate regulatory remedies for this market, in light of other obligations that it is trying to impose, such as those for markets M8b and M8c. This is further discussed in Ooredoo's response to Question 30.

Questions 22 and 23

[58] TRA, 2013. Remedies for Ex-ante Regulation of the UAE Telecommunications Sector: Determination No. (4) 2013. Available at https://www.tra.gov.ae/assets/CZtu2qx2.doc.aspx.
[59] TRA, 2011. Annexure to Determination No. (1) of 2011: Relevant markets for Telecommunication Services and Related Products in the UAE. Available at https://www.tra.gov.ae/assets/TR6njvL5.pdf.aspx.
[60] Ofcom, 2014. Review of the wholesale broadband access markets: Statement on market definition, market power determinations and remedies. Available at http://stakeholders.ofcom.org.uk/binaries/consultations/review-wba-markets/statement/WBA-Statement.pdf.

Question 22 - Do you agree with the Authority's application of the TCT to markets for national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 23 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

3.35 The CRA considers that M10 is susceptible to ex-ante regulation on the basis that the network diagrams provided by Ooredoo and VFQ suggest that only Ooredoo has a full nation-wide core network which can be used for the provision of trunk segments of leased lines.

3.36 Ooredoo disagrees with the CRA's preliminary conclusion that the market is susceptible to ex-ante regulation as the CRA fails to present convincing evidence that the market passes the TCT. In particular, the market does not exhibit high and non-transitory barriers to entry.

3.37 While the CRA correctly recognises that the barriers to entry in the market are low relative to other wholesale markets (including leased line access market), it does not consider that other providers, including VFQ, would be able to build a full core network on a national level in the near future. Instead, it states that "the Authority does not foresee that alternative SPs would be able to build a core network sufficient to offer Retail Leased Lines nationwide".[61] The CRA, however, fails to substantiate this claim with evidence.

3.38 Ooredoo is surprised by the CRA claim, as the fact that VFQ has already built a core network for its mobile operations suggests that the possibility of VFQ building a full core network enabling it to autonomously retail leased lines services is far from remote. This is because the cost of expanding its existing core network is clearly lower than the cost of building one from scratch. In fact, Ooredoo estimates that CAPEX requirement for VFQ to build a fixed core network to serve one third of the business leased line market in Qatar (using the duct access service from Ooredoo) on top of their existing mobile core network would be in vicinity QAR [redacted][62]. This represent [redacted] of VFQ's 2014 annual capital expenditure (QR

[61] Dominance assessment consultation p.70

[62] Ooredoo has based this estimate on its own IP core network (transmission and switching) costs. The IP core is shared by fixed and mobile services, voice and data as well as leased lines services. The Ooredoo's IP core costs used for leased lines services were derived by splitting the IP core network costs between

344m) and is less than [redacted] of its overall borrowing capacity of QR 1.2b as reported by VFQ for Gulf base on 28 May 2014.[63] These estimates suggest that the CRA conclusion that VFQ cannot build a sufficient NGA core network in a small geography like Qatar is not valid.

3.39 The decision of VFQ not to invest should not be confused with non-transitory barriers to entry and Ooredoo should not be penalized for the failure of VFQ to deliver on its fixed license obligations. VFQ has been able to provide to itself leased lines for its mobile network using microwave technology since it entered the market, a fact that the CRA appears to ignore.

3.40 Therefore, Ooredoo believes that not enough evidence has been provided by the CRA to justify considering the market as Relevant. The low barriers to entry do not allow to conclude that the market passes the TCT. As the market is not Relevant, no dominance assessment is necessary.

individual services based on its usage by these services. VFQ already have an IP core, which was assumed to be used only for mobile services. Then it was assumed that the VFQ's incremental cost of the IP core network required to address leased line market in Qatar would correspond to the Ooredoo's trunk leased lines costs as derived above. Assuming VFQ would gain one third of the customers in leased line market we estimate that their costs would be approximately half of the Ooredoo's costs due to Ooredoo's scale economies. This results in QAR [redacted] m. Ooredoo also estimates that VFQ cost to build the IP core network to serve one third of total fixed market (i.e. including other than leased line services) would be approximately QAR [redacted] m (i.e. [redacted] of its overall borrowing capacity). It is important to stress that these costs do not represent upfront investment but instead would be incurred only gradually with the growth of the VFQ subscriber base. Hence there is very limited risk associated with this investment.

[63] http://www.gulfbase.com/news/qr172mn-capex-plan-4g-rollout-soon/262987

Questions 24 and 25

Question 24 - Do you agree with the Authority's application of the TCT to markets for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 25 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response.

3.41 The CRA considers M11 to be susceptible to ex-ante regulation on the basis that:

- Building a competing national fixed access network infrastructure is costly; and
- Ooredoo is currently the sole provider of these services in the market.

3.42 The CRA further considers Ooredoo dominant in this market, on the basis that Ooredoo is the owner of the only national access network.

3.43 While Ooredoo broadly agrees with the preliminary conclusion that the market for the terminating segment of national leased lines is a Relevant market and Ooredoo has SMP, Ooredoo notes that the necessity of imposing remedies in this market should be considered in the context of other remedies that the CRA is trying to impose at the same time, in particular in relation to access to passive infrastructure. Indeed, duct access regulation would ensure that operators have no barriers to develop their terminating segment, and therefore the remedy is unnecessary in light of the duct access regulation. This is further discussed in Section 4 of this document.

3.44 With respect of the provision of terminating segment of international leased lines services, Ooredoo believes that the international market is already competitive, and thus not susceptible to ex-ante regulation.

Question 26

Question 26 - Do you agree with the Authority's application of the TCT to markets for the international transit segment of international wholesale leased lines services (M12), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

3.45 Ooredoo agrees with the CRA's preliminary conclusion to not impose ex-ante regulation on M12.

Question 27

Question 27 - Do you agree with the Authority's application of the TCT to markets for the wholesale access and origination on public mobile networks (M13), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

3.46 Ooredoo agrees with the CRA's preliminary conclusion to not impose ex-ante regulation on M13.

Questions 28 and 29

Question 28 - Do you agree with the Authority's application of the TCT to markets for the wholesale termination on individual mobile networks (M14), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Question 29 - Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual mobile networks (M14), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in this market? Please explain your answer and provide any evidence supporting your response.

3.47 The CRA found M14 to be susceptible to ex-ante regulation on the basis that there are high and non-transitory barriers to entry, the market on each network is fully concentrated and there is no competitive pressure on prices. This analysis is in line with international precedent on mobile termination markets.

3.48 Ooredoo agrees with the CRA's preliminary conclusion regarding ex-ante regulation in M14 and with the determination that each network operator is dominant in the market for mobile call termination on its own network.

4. Proposed remedies and mapping of Ooredoo's services

Question 30

Do you agree with the Authority's proposed remedies on DSPs in each market? Please explain your answer and provide any evidence supporting your response.

4.1 The CRA proposes several remedies to be applied on the Relevant markets defined in the Dominance assessment consultation, including:

- The adoption of regular reporting requirements;
- The imposition of retail tariffs (RTI);
- The design of wholesale tariff regulation;
- The use of a regulatory accounting system (RAS); and
- The preparation of reference offers on a regular basis.

General comments on proposed remedies

It is unnecessary and disproportionate to impose both retail and wholesale remedies

4.2 As already discussed in section 1 of this document, Ooredoo is disappointed to see that the CRA has disregarded its own policy, and has failed to adequately consider the need for both retail and wholesale remedies. At the very minimum, Ooredoo would have expected a detailed and reasoned discussion on why wholesale remedies would be insufficient and therefore retail remedies would also be required. No such analysis has been presented by the CRA.

4.3 In fact, had the CRA conducted its analysis appropriately, it would have found that in most cases, with the possible exception of markets 1a and 1b, wholesale remedies are sufficient to address the competitive issue (where one actually exists) at the downstream level.

4.4 As also mentioned in Section 1, many regulators in other jurisdictions consider the imposition of both retail and wholesale remedies excessive.

4.5 Ooredoo urges the CRA to reconsider its analysis in light of international best practice. As it stands, the CRA analysis is not sufficiently robust or evidenced.

It is unnecessary and disproportionate to impose both active and passive remedies

4.6 At the wholesale level, the CRA is proposing the adoption of both active and passive remedies.

4.7 Whilst Ooredoo recognises that both types of remedies are possible to address competitive issues in downstream markets, imposing both set of remedies at the same time is very unusual. In fact, Ooredoo has presented numerous examples from international markets where either only one or the other type of remedy is in place or where a significant time gap occurred between the imposition of the two types of remedies.

4.8 For example in the UK, which has one of the strictest regulatory regimes in Europe, Ofcom has refrained from imposing both active and passive remedies in a single step, with some PIA requirements being introduced years after the introduction of active remedies. Full PIA has only recently been announced and has yet to be implemented.

4.9 Similarly, in Oman the TRA refrained from imposing passive access regulation on Omantel on the basis that this was excessively burdensome:

> *"The TRA recognises that requiring Omantel to offer access to dark fibre and duct services could impart a significant cost on Omantel. […]Taking into account all of the above, the TRA considers that it would be appropriate, at this stage of the market's development, to not require Omantel (or any other licensee who has a dominant position in the relevant market) to offer duct access and dark fibre services on regulated terms"* [64]

4.10 Imposing both types of remedies at the same time is unnecessary and disproportionate. It also fails to meet the regulatory criteria of limiting regulation to the minimum necessary to address the competitive issues identified.

4.11 This proposal, in Ooredoo's opinion, has resulted from the failure by the CRA to adequately consider the competitive problems in downstream markets and the relationships between wholesale markets, as well as the lack of any RIA by the CRA.

[64] TRA, March 2015. Consultation on Draft Access and Interconnection Regulation. P.53, https://www.tra.gov.om/pdf/position-statement-on%20-access-and-interconnection-regulation.pdf

4.12 Ooredoo urges the CRA to reassess its analysis in light of international best practice and refrain from imposing regulation that is unnecessary and excessive, at this stage of market development.

A Regulatory Impact Assessment is necessary before finalising the remedies

4.13 As discussed in more details in Section 1 and above, the CRA has failed to conduct a RIA of the proposed remedies. This is not in line with international best practice and has resulted in over regulation and in regulation being too strict in several markets.

4.14 Therefore, Ooredoo exhorts the CRA to conduct a RIA, the preliminary results of which, in line with international best practice, will have to be subject to a consultation.

Adoption of remedies should be gradual

4.15 The adoption of any final remedy that might be imposed on the market should happen gradually over time to allow market players to adjust and prepare appropriately. This is in line with European and regional best practice. For example, in 2013, the UAE TRA, after proposing the imposition of both active and passive access regulation in the UAE market, stated:

> *"The TRA does not intend to implement all of the new remedies simultaneously."*[65]

4.16 Ooredoo invites the CRA to adopt a similar approach and consult with the industry on a realistic and appropriate timeline for the gradual introduction of any new remedy.

Updates to the RAS should be gradual and RAS should be provided by both VFQ and Ooredoo

4.17 Ooredoo currently provides RAS reporting to the CRA on an annual basis. Whilst Ooredoo understands the need to update its RAS to include any new regulated service which might be introduced, Ooredoo would like to draw the CRA's attention to the logistics and timing of these additions to the existing RAS.

4.18 Including the newly regulated services to the RAS will firstly require adjusting Ooredoo's cost accounting system, as the new services will have to be separated and captured appropriately. Further, it will take a few years before Ooredoo is able to fully report on

[65] TRA, March 2015. Consultation on Draft Access and Interconnection Regulation. P.53, https://www.tra.gov.om/pdf/position-statement-on%20-access-and-interconnection-regulation.pdf

these new services as the RAS can only capture the cost of services to the extent that these have been incurred in the previous year.

4.19 As it will take at least a year to fully update RAS, standalone models will be built as necessary and agreed, to inform the wholesale rates. Such models must have consideration to the risks that Ooredoo must bear as well as providing incentives for continued investment.

4.20 Finally, due to its increasing presence in a number of markets, VFQ should also be required to submit a RAS. While this would include a smaller number of services than Ooredoo's RAS, it would nevertheless provide appropriate and beneficial information to the market and the CRA. For example, the CRA would need information of VFQ's costs to be able to design appropriate termination rates. Requiring smaller operators to provide a RAS would not be an exception. Indeed, there are precedents in other jurisdictions, including in the region, such as Oman, where the second operator is also required to produce regulatory accounts, albeit for a smaller number of services.[66]

Final remedies will have to be subject to a separate consultation process to set technical aspects

4.21 In defining the remedies for the relevant markets, the CRA has not defined clearly or in any detail the practical and technical aspects of the remedies that are imposed. For example, in regard to the remedies on wholesale services the CRA's obligation only specifies that Ooredoo is to provide access "on cost oriented basis".

4.22 There is no discussion on how the CRA intends to assess cost orientation, nor on the processes, systems and procedures that would be required to enable these new services to be put in place.

4.23 Ooredoo understands that the specific design of the remedies is not one of the goals of the MDDD, and therefore did not necessarily expect these discussions to be covered in this consultation.

[66] In Oman, the regulator, may require the Dominant operator to provide separated regulatory accounts for relevant markets where the operator has not been declared to have a dominant position. See paragraph 3.7 of TRA, February 2015, Accounting Separation Regulation: Draft for Consultation. https://www.tra.gov.om/pdf/draft-accounting-separation-regulation.pdf

4.24 However, Ooredoo expects that the practical aspects of the remedies that will eventually be imposed should be discussed and agreed with all market players through appropriate consultations. This is customary in many jurisdictions internationally.

4.25 For example, in Oman, the Telecommunications regulatory Authority (TRA) stated in the 2013 Remedies for Ex-ante Regulation of the UAE Telecommunications Sector consultation:

> *"The TRA intends to consult with Stakeholders in relation to each new remedy prior to implementation. This is to ensure that any ex-ante regulatory intervention undertaken by the TRA will be based on remedies proportionate to the issues they seek to resolve and to the market conditions that exist at that point in time."*[67]

4.26 In Saudi Arabia, instead, passive access regulation was introduced in February 2016, following a consultation process that started in November 2014 on both duct and dark fibre.[68]

4.27 Therefore, Ooredoo would like to take the opportunity to communicate its availability to engage with the CRA to discuss the practical and technical design of the remedies set in the MDDD during a separate consultation process.

Comments on proposed remedies by Candidate market

4.28 This remainder of this section discusses briefly specific aspects of the remedies proposed by the CRA in each market.

Retail markets

M1- Retail national fixed voice and broadband services

4.29 Ooredoo agrees with the remedies proposed by the CRA in markets M1a and M1b, subject to the comments expressed in 'General comments on proposed remedies' section being addressed by the CRA.

4.30 In Market M1c, Ooredoo believes that remedies are unnecessary as the market is competitive and thus not susceptible to ex-ante regulation.

[67] TRA, 2013, Remedies for Ex-ante Regulation of the UAE Telecommunications Sector
[68] http://www.citc.gov.sa/Arabic/New/PublicConsultation/Pages/143601.asp

M2a and M2b – Retail international calls at a fixed location, residential and business

4.31 As discussed in Section 2 of this report, the market for international call services at fixed location shows signs of competitiveness by OTTs and further increases in competition are foreseen. Therefore, Ooredoo believes neither of the two submarkets M2a and M2b are susceptible to ex-ante regulation as neither of them passes the TCT.

M3 – Retail national leased lines services

4.32 Ooredoo believes that the imposition of both wholesale and retail remedies in this market is excessive, disproportionate and inconsistent with the policy framework that the CRA has outlined in 2014, where it clearly expressed a preference for wholesale only remedies whenever possible. Any issues that may arise in the context of the provision of wholesale services should be addressed through the wholesale remedies and not by imposing additional remedies on the retail markets. Hence, as argued in Section 2, Ooredoo believes this market should not be susceptible to ex-ante retail regulation.

4.33 Further, the proposed regulation could potentially lead to inefficient outcomes; disincentivising VFQ from undertaking any investment (as it will be protected both at the retail and at the wholesale level) whilst discouraging Ooredoo from investing in new technologies or innovation.

4.34 Therefore, Ooredoo proposes the removal of all retail level remedies in the leased lines market, as the remedies proposed by the CRA for M11 would be sufficient.

M4 – Retail international leased lines services

4.35 As discussed in Section 2, Ooredoo has provided extensive evidence of the competitive constraints imposed by international carriers in the market for international leased lines. On the basis of this evidence, Ooredoo believes that the market is already competitive and thus no remedies are necessary.

4.36 Given direct competition from international service providers, and the fact that Ooredoo provides services to less than [redacted] of the market customers, any remedy imposed on Ooredoo at retail market would be discriminatory and in violation of the Telecommunication Law which states that "The regulations, decisions, orders, rules and policies issued pursuant to this Law shall be transparent and non-discriminatory with respect to all service providers and other market participants."[69]

[69] Telecommunication Law, article 6

M5 – retail national mobile voice and broadband services

4.37 The obligation on Ooredoo to include in the RAS the retail national mobile services, despite not being dominant in the market, is excessive and disproportionate and inconsistent with international best practice. Instead, Ooredoo could provide the CRA with ad hoc reports in which figures for unregulated markets are aggregated.

4.38 Internationally, it is unusual for operators subject to regulatory accounting obligations to include unregulated services in the RAS. Further, in the few jurisdictions where regulators require SMP to submit information on unregulated services, reporting of unregulated is:

- Required only under a general "residual" cost pool, without disclosure of individual services. This provides the regulator with comfort that the total costs reconciles with the statutory accounts, while at the same time not imposing undue disclosure obligations on unregulated services.
- Requested ad hoc by the regulator rather than being included in the yearly Regulatory Financial Statements (RFS).

4.39 For example the regulator in Saudi Arabia, CITC, when requesting the incumbent operator to provide accounting information for markets where no SMP is found, accepts that separated accounts for unregulated services are "reported only at aggregated level and in less detail than the ones required for the associated regulated markets, if this is sufficient for the effective review of the Designated Service Provider's obligations in the regulated market(s)".[70] Similarly, the regulator in Oman, the TRA, allows SMPs to provide aggregated or less detailed information on services in markets in which they have not been declared to have SMP status, when requested to supply accounting information.[71] Further, both regulators request information on unregulated services on an ad hoc basis.

4.40 Moreover the CRA currently requires Ooredoo to submit on monthly basis profitability reports for retail mobile markets in which Ooredoo is not dominant. It highly time consuming for Ooredoo to produce these reports and hence their regulatory requirement represents significant cost to Ooredoo. Ooredoo considers this requirement to be

[70] CITC, 2010. Regulatory Framework on Accounting Separation, Draft. Available at http://www.citc.gov.sa/arabic/New/PublicConsultation/Documents/Attachment1AccountingSeparationRegulatoryFramework.pdf.

[71] TRA, 2015. Consultation on draft Accounting Separation Regulation and Draft Accounting Separation Guidelines: Position Statement. Available at https://www.tra.gov.om/pdf/position-statement-as-regulation-and-guidelines-final.pdf.

excessive and discriminatory since VFQ is not required to provide the same reports for the market where it is not designated DSP. In the context of the competition policy, Ooredoo understands this data should be provided only in the case when an evidence substantiated complaint is raised by a competitor and the CRA decides to investigate the case of potential cross-subsidy type of retail pricing. Ooredoo is prepared to provide the required data under such circumstances but on an ongoing monthly basis.

Wholesale markets

M6 – Wholesale call origination on public telecommunications networks at a fixed location

4.41 Ooredoo broadly accepts the remedies proposed by the CRA, subject to the comments expressed in ‘General comments on proposed remedies’ section being addressed by the CRA.

4.42 However, Ooredoo would like to highlight that the “cost oriented” charges to be applied in the market should be agreed with market players in a separate consultation. Further, in a market where local calls are provided effectively free of charge at the retail level, it is unclear how a cost oriented call origination charge might be commercially feasible and at what level it might be set.

M7 – Wholesale termination on individual telecommunications networks at a fixed location

4.43 Ooredoo broadly accepts the remedies proposed by the CRA, subject to the comments expressed in ‘General comments on proposed remedies’ section being addressed by the CRA.

4.44 Further, Ooredoo believes that due to the rapid growth of VFQ and the expected market developments, the current symmetry in termination rates between VFQ and Ooredoo is appropriate.

M8b – Wholesale physical access to NSPs’ dark fibre and copper, including relevant ancillary facilities/services and collocation space

4.45 By imposing the dark fibre access obligation on Ooredoo the CRA ignores the original intent behind establishment of QNBN and its license obligation to build nationwide dark fibre network and wholesale it to both Ooredoo and VFQ. Ooredoo sees the CRA proposal as simple transfer of license obligation from QNBN to Ooredoo that rewards QNBN license failure and penalises Ooredoo for investment. Further, as Ooredoo has explained various times to the CRA, and also in its response to the previous consultation, Ooredoo faces technical constraints to the provision of dark fibre. Ooredoo has deployed a GPON network, with only limited point-to-point fibre. GPON networks do not make it possible to provide access to individual strands of dark fibre. Therefore, considering this market Relevant and requesting that Ooredoo provides access to its dark fibre does not recognise the reality of the network on the ground.

4.46 In summary, Ooredoo believes that less burdensome and more effective remedies in other markets would be sufficient to ensure competition in downstream markets, and thus no ex-ante regulation should be imposed to this market.

M8c – Wholesale physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space

4.47 Ooredoo broadly accepts the requirement to continue providing access to its ducts and ancillary services under the existing arrangements.

4.48 However, Ooredoo believes that the obligations should be extended to all entities who own ducts, including other utilities. This would be in line with the recent European Commission's Directive[72], which will soon have to be incorporated in all EU countries' regulation.

M8d – Functional access to international gateway facilities required to gain international connectivity

4.49 Ooredoo believes that this market is not to be considered Relevant, as it is already competitive and thus it does not pass the TCT (see Section 3 for a detailed discussion). Therefore, Ooredoo firmly opposes the imposition of remedies to this market.

4.50 Further, if the CRA was to consider the market to be susceptible to ex-ante regulation, such regulations should be imposed on VFQ rather than on Ooredoo, as VFQ operates a much larger international connectivity network. This implies that any access seeker would have a better international reach from accessing VFQ landing stations rather than Ooredoo's.

[72] European Union Directive 2014/61/CE aims at creating a market for physical infrastructure by obliging all utilities operators to offer access to their physical infrastructure for deployment of high-speed broadband networks (30 Mbps and above). Directive 2014/61/EU of the European Parliament and of the Council of 15 May 2014 on measures to reduce the cost of deploying high-speed electronic communications networks Text with EEA relevance/ http://eur-lex.europa.eu/legal-content/EN/NOT/?uri=uriserv:OJ.L_.2014.155.01.0001.01.ENG

M9 – Wholesale broadband access at a fixed location

4.51 As mentioned above in M8b, Ooredoo believes that the imposition of remedies in this market is to be carefully considered by the CRA since, as discussed in more details in Section 1 of this document:

- In the 2014 Policy, the CRA committed to avoid over-regulation and instead aim at imposing the minimum necessary number of remedies in Qatar. Therefore, the CRA should only consider imposing remedies to this market if it decides not to impose PIA, as imposing both active and passive access would be unnecessary and burdensome.

- In deciding between active and passive access, the CRA should consider that, according to its own regulatory framework, remedies should always be imposed to the real bottlenecks, and that competitiveness of downstream markets should be assessed on the basis of the wholesale remedies imposed to more upstream markets. Therefore, to ensure competition in the retail markets, duct access should be preferable to active access regulation.

- The CRA should conduct a RIA and assess which, between active and passive access, is most cost effective. Until the CRA has not demonstrated that imposing remedy to M9 is cost effective, no remedy should be imposed to M9. Indeed, the adoption of the proposed remedy would require significant investment by Ooredoo. The cost of compliance should have been considered and quantified by the CRA in an appropriate RIA. The estimated impact should have been discussed with Ooredoo to ensure that the real costs of implementation were analysed before imposing any remedies.

- The CRA should consider that regulating active access requires significant effort from all market players, as it is necessary that all technical and practical details are discussed and agreed upon.

M10 – National trunk segment of (national and international) wholesale leased lines services

4.52 Ooredoo believes that this market is not to be considered Relevant, as it does not pass the TCT for the reasons outlined in Section 3 above. Therefore, Ooredoo firmly opposes the imposition of remedies to this market.

M11 –Terminating segment of (national and international) wholesale leased lines services

4.53 Imposing these remedies on Ooredoo penalizes Ooredoo and rewards the failure of QNBN and VFQ to invest and meet their license obligations. , Shall the CRA ignore these facts and impose these remedies on Ooredoo it is necessary to recognize the fact that the costs of core and access network leased lines are different and there will be time required to determine the charges and specifics of this services. Ooredoo also insists that the comments expressed in the 'General comments on proposed remedies' section are properly addressed by the CRA.

4.54 Ooredoo believes that the terminating segment of wholesale leased lines for international carriers should not be regulated, as the international market is already competitive and thus no ex-ante regulation is needed. This is further discussed in Section 2 of this response.

M14 – Wholesale termination on individual mobile networks

4.55 Ooredoo broadly accepts the remedies proposed by the CRA, subject to the comments expressed in 'General comments on proposed remedies' section being addressed by the CRA.

Question 31

Do you agree with the mapping of Ooredoo's 2014 RAS services to the MDDD Candidate Markets?

4.56 The following table summarises Ooredoo's comments on the CRA's mapping of Ooredoo's RAS services.

Table 6: Ooreodo's comments on the CRA's mapping of Ooredoo's RAS services

Market	Ooredoo's comments
M1	The services under the Fixed Other category are not part of any Relevant Market. These services should be reported as "Other" services and should be part of Non-MDDD Markets. Fixed Internet hosting is not in a regulated Market and should be part of Non-MDDD Markets. CPE, ONT, STB, PABX are currently under Non-MDDD Markets. However, the cost of these service components should be reflected in the cost of services in M1 market. For example see the fibre cost justification model.

M2	Roaming should not be included in this market. It should instead be part of Non-MDDD Markets.
M3	The costs of CPE that Ooredoo provides relating to these services should be included in this market.
M5	Tetra should not be included. It should part of Non-MDDD market. The services under the Mobile Other category are not part of any Relevant Market and should be reported as "Other" services and should be part of Non-MDDD Markets. Roaming data should be part of Non-MDDD Markets.
M13	National roaming is distinct from international roaming services because: National roaming in Qatar would (given reserved spectrum held by CRA for third entrant) represent only temporary regulatory obligation imposed on existing mobile operators to provide roaming to subscribers of a new entrant, outside of new entrant's coverage area. Even in the case of permanent MVNO, the tariffs applied for national roaming would be subject to different competitive conditions than IOT's applied to foreign operators. National roaming agreements are not based on the charging agreements developed within GSM Association. National and international roaming are not direct substitutes and price decline for one service does not automatically drives the drop in price for the second service. Given these differentiating factors national and international roaming shall not be part of the same market. International roaming services shall be part of non-MDDD market.

4.57 As shown in the table above, several products should be considered among the Non-MDDD Markets.

5. Conclusion

5.1 This section summarises the key aspects of Ooredoo's position in relation to the Dominance assessment consultation by the CRA. This section does not repeat all the arguments and conclusions set out by Ooredoo in this document and therefore should be read in conjunction with the rest of this report.

General comments

5.2 Ooredoo agrees with the CRA that there is a necessity for a fundamental review of the regulatory framework of the telecommunications market in Qatar. However, Ooredoo has serious concerns with the analysis and preliminary conclusions reached by the CRA.

5.3 Ooredoo believes that the main objective of the CRA should be to promote a regulatory framework which reaches an appropriate balance between protecting consumers' interests and stimulating investment and innovation. This could be achieved through a regulatory regime which provides market players with level-playing-field access to those essential facilities without which they could not compete, but which allows the competitive process to determine the optimal level of investment and market share of individual operators.

5.4 Instead, the CRA appears to have adopted an approach that aims at protecting specific individual competitors, rather than protecting the competitive process.

5.5 In particular, some of Ooredoo's key concerns are:

- The CRA's analysis is not in line with the regulatory framework that the CRA proposed in the 2014 Policy. This resulted in too many remedies being imposed. Ooredoo expects the CRA to revise its analysis to align with the agreed regulatory framework.

- The proposals set out in the Dominance assessment Consultation appear to contradict certain of the policy objectives for the sector, and in particular, the National Broadband Plan (NBP), that was published by the Minister of Information and Communications Technology (MICT) towards the end of 2014.

- The TCT is not applied iteratively and from a forward-looking perspective. This resulted in competitive retail markets being considered Relevant and unnecessary remedies being proposed in several retail markets, as the CRA has failed to take into account that many retail markets would be competitive in light of the proposed wholesale remedies.

- The CRA has failed to conduct any impact assessment study of its proposed remedies. This resulted in over-regulation as the expected benefits from the proposed remedies have not been balanced against the cost of compliance.

5.6 Therefore, Ooredoo believes that a thorough review of the analysis and methodology used in the Dominance assessment consultation is needed before any remedies can be imposed.

Summary of Ooredoo's position

5.7 The tables below summarise Ooredoo's position on the Relevant Markets at both retail and wholesale level.

Table 7: Summary of Ooredoo's position on TCT and SMP in proposed relevant retail markets

Proposed relevant Market	Comments on identification of market as Relevant and dominance assessment	Comments on proposed remedies
M1 – Retail national fixed voice and broadband services		
M1a – Retail fixed access services	• Broadly accepted.	• Broadly accepted subject to comments in 'General comments on proposed remedies' section.
M1b – Retail national fixed call services	• Broadly accepted.	• Broadly accepted subject to comments in 'General comments on proposed remedies' section..
M1c – Retail fixed broadband services	• Market fails TCT when applied iteratively. • Market is not susceptible to ex-ante retail remedies as the proposed wholesale remedies would ensure competition.	• Market does not need retail regulation as proposed wholesale remedies would be sufficient to ensure competition in the retail market.
Market M2 – Retail international fixed outgoing call services		
M2a – Retail international outgoing call services at a fixed location – residential customers	• Market does not pass the TCT due to competitive pressures by OTTs. • Since market is already competitive, no dominance assessment is needed.	• No remedies are needed as the market is already competitive.
M2b – Retail international outgoing call services at a fixed location – business customers	• Market does not pass the TCT due to competitive pressures by OTTs. • Since market is already competitive, no dominance assessment is needed.	• No remedies are needed as the market is already competitive.
Market M3: Retail national leased line services	• Market fails TCT when applied iteratively. • Market is not susceptible to ex-ante retail remedies as the proposed wholesale remedies would ensure competition.	• Market does not need retail regulation as proposed wholesale remedies would be sufficient to ensure competition in the retail market.

Proposed relevant Market	Comments on identification of market as Relevant and dominance assessment	Comments on proposed remedies
Market M4: Retail international leased line services	• Market does not pass the TCT due to competitive pressures by international carriers. • Since market is already competitive, no dominance assessment is needed.	• No remedies are needed as the market is already competitive.

Table 8: Summary of Ooredoo's position on TCT and SMP in proposed relevant wholesale markets

Proposed relevant Market	Comments on identification of market as Relevant and dominance assessment	Comments on proposed remedies
Market M6 – Wholesale call origination on public telecommunications networks at a fixed location	• Broadly accepted.	• Broadly accepted subject to comments in 'General comments on proposed remedies' section.
Market M7 – Wholesale termination on individual telecommunications networks at a fixed location	• Broadly accepted.	• Broadly accepted subject to comments in 'General comments on proposed remedies' section. • Asymmetry in termination rates is unnecessary.
Market M8 – Physical access		
Market M8a – Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary services and collocation space	• Agree that market is not relevant.	• No remedy imposed as market is not Relevant.
Market M8b – Physical access to dark fibre	• Ooredoo faces high technical barriers to provide. • QNBN should be found to be dominant. • Remedy is excessive if combined with active access regulation on M9.	• The rollout of state wide dark fibre network has been the QNBN license obligation. • Ooredoo fibre network has not built in a way that would enable the dark fibre wholesale service.

Proposed relevant Market	Comments on identification of market as Relevant and dominance assessment	Comments on proposed remedies
Market M8c – Physical access to NSPs' ducts	• Duct access appears to be the true bottleneck facility.	• Duct access is already provided by Ooredoo. • CRA should consider if any other remedy still necessary in light of duct access remedy being imposed.
Market M8d – Functional access to international gateway facilities required to gain international connectivity	• Market is not Relevant as there is no market failure in this market and CRA's analysis is contradictory. • Even if considered relevant, remedy should be imposed on VFQ.	• Wholesale remedies are firmly opposed as market is not susceptible to ex-ante regulation.
Market M9 – Wholesale broadband access at a fixed location	• Remedy is excessive if combined with passive access regulation in M8.	• Both active and wholesale remedies are excessive. Remedy could be imposed only if no remedies are imposed in M8. • CRA should consider if remedy is necessary in light of other proposed remedies.
Market M10 – National trunk segment of (national and international) wholesale leased lines services	• Market is not relevant as barriers to entry are low.	• Market does not need regulation as it is already competitive.
Market M11 - Terminating segment of wholesale leased lines services (national and international)	• Ooredoo broadly agrees with the CRA for national market. • International market is already competitive.	• For national market, the CRA should consider whether remedies in M8 would be sufficient to ensure that barriers to entry are low and gather evidence before making a decision. • As international market is competitive, no wholesale remedy is needed for international market.

17 March 2016

NON-CONFIDENTIAL

VODAFONE QATAR Q.S.C ("VODAFONE QATAR") RESPONSE TO CRA's CONSULTATION ON MARKET DEFINITION AND DOMINANCE DESIGNATION IN QATAR - DOMINANCE ASSESSMENT IN RELEVANT MARKETS (PHASE II) ("MDDD") DATED 1 FEBRUARY 2016.

1 Introduction

1.1 Vodafone Qatar welcomes the opportunity to comment on Communications Regulatory Authority's (**"CRA"**) consultation document on market definition and dominance designation in Qatar – Dominance assessment in relevant markets (Phase II) (**"Consultation Document"**).

1.2 Please note that Vodafone Qatar's response to this consultation is without prejudice to Vodafone Qatar's pending appeal case in respect of the CRA's Final Decision for Phase I of MDDD which is currently before the Administrative Courts.

1.3 Vodafone Qatar's submission is structured as follows:

Part A: Executive Summary

Part B: General Comments

Part C: Answers to consultation questions

Part A: Executive Summary

1. Opening remarks

1.1 The absence of a proper and comprehensive access regime to facilitate access to and use of Ooredoo's fixed infrastructure on an equivalence basis has been a key missing element of the regulatory framework since Vodafone Qatar first entered the market approximately 7 years ago. Vodafone Qatar welcomes the CRA's renewed focus on implementing such a regime and considers it a fundamental building block of a full and proper functioning regulatory framework as envisioned in the Telecommunications Law No 34 of 2006.

1.2 A fully developed and properly applied regulatory framework is clearly in the national interest and is a critical enabler through providing a platform for sustainable and effective competition in all segments of the telecommunications market. This in turn will help to deliver the benefits of choice and innovation to consumers and businesses in Qatar and ensure that the contribution of the telecommunications sector to the broader economy is maximised. We have clearly seen the benefits of competition in mobile markets since Vodafone Qatar first began operating in Qatar and our ambition is to deliver similar benefits in fixed line markets with the required support of the CRA.

1.3 Vodafone Qatar agrees with CRA's stated assessment of Ooredoo's dominance in the relevant fixed line and wholesale markets at both the retail and wholesale levels. However, we have reservations regarding the findings of CRA's relating to mobile markets and believe that ex-ante regulation should still be applied to these markets. Recognising key global market trends of fixed / mobile convergence and bundled offerings, it is clear that competitive parity in fixed line markets will support further and more effective competition in mobile markets. In particular, in the enterprise segments. Vodafone Group's experience in other markets within the Vodafone Group of companies supports this view.

1.4 Vodafone Qatar wishes to lend its full support to the CRA to act quickly and decisively to introduce proportionate and well-designed remedies that will enable Vodafone Qatar to introduce much needed competition into fixed line markets and which will also support more effective competition in mobile markets and avoid a re-monopolisation of those markets over the medium to long term.

2. Vodafone Qatar's ambition – offering choice and innovative services to consumers

2.1 Vodafone Qatar wants to be able to compete effectively. We are committed to competition and our ambition is to be a strong competitor. With the right platform and regulatory enablers in place, Vodafone Qatar is well placed to play a greater role in contributing to the growth of the telecommunications sector and delivering greater benefits to consumers and business through sustainable and effective competition in fixed markets.

2.2 In order to support this outcome, fundamental market imbalances and regulatory uncertainty must be acknowledged and addressed effectively. Ooredoo controls over **[redacted]** % of the sector. Between 2009 and 2014, Vodafone was able to achieve significant growth in the mobile market and grew its revenue market share steadily from nothing since launching services in 2009 to **[redacted]** in 2014. Since then we have experienced a very concerning trend, one which indicates a move toward re-monopolisation of the mobile market. Ooredoo's revenue market share in the mobile market increased whilst Vodafone revenue market share and EBITDA decreased.

2.3 During the period from July 2014 to December 2015, Vodafone Qatar's total revenue market share declined by **[redacted]** to **[redacted].**This decline coincided with the removal by the CRA of ex-ante retail pricing regulation restrictions which to that point had applied to Ooredoo on the basis of its formal designation as a dominant service provider. The decision to relieve Ooredoo from these restrictions was made despite the fact that Ooredoo's formal designation as a DSP remained in place. On account of these actions Vodafone Qatar lost significant revenue market share and its overall market share was reduced to the same level as it was in July 2013.

2.4 A further comparison of the financial performance of Ooredoo and Vodafone Qatar demonstrates the magnitude of the imbalance and the market power of Ooredoo: In 2015:

(a) Ooredoo achieved an EBITDA margin of **[redacted]** % compared to **[redacted]** % by Vodafone Qatar;

(b) Ooredoo's revenues grew by **[redacted]** % whilst Vodafone Qatar's total revenue market share declined by **[redacted]** %.

2.5 The above figures evidence a marked deterioration of competition in mobile markets whilst fixed line markets remain uncompetitive and underline worrying trend to re-monopolisation of mobile markets. This trend has significantly impacted Vodafone Qatar's ability to invest and compete with Ooredoo on a level playing field. This highlights the critical importance of the CRA acting decisively to implement remedies that will enable Vodafone Qatar to be able to compete effectively with Ooredoo in fixed markets and further prevent Ooredoo from leveraging its market power in fixed into mobile.

2.6 Set out below are our views on remedies which, if implemented quickly and regulated effectively, would significantly improve the competitive landscape and investment climate.

3. **Ooredoo's dominance in relevant markets involving fixed infrastructure**

There is no question that Ooredoo remains overwhelming dominant in the wholesale and retail markets involving fixed infrastructure. As the CRA acknowledges, Ooredoo controls in excess of **[redacted]** % market share of these markets. This gives rise to very strong incumbency advantages. Ooredoo also controls the underlying infrastructure (the ducts, cables, and the electronics) to offer services which are very difficult and uneconomical to replicate, in particular, when starting from such a position of market imbalance and given the distortions of competition in the mobile market. Further, it is not economically feasible or socially desirable to duplicate such infrastructure. Structural and strategic barriers to entry in fixed line remain very high and Qnbn does not constrain Ooredoo's market power.

4. **Mobile markets**

4.1 The situation in mobile markets is somewhat different in the sense that competition occurs between networks. However, there remain significant distortions of competition, especially following the formal lifting of key ex ante retail price controls in July 2015 (noting that Ooredoo, stopped complying with its retail obligations in 2014) which warrants additional scrutiny by the CRA.

4.2 Vodafone Qatar submits that Ooredoo remains dominant in the mobile markets and ex-ante regulation needs to be applied to Ooredoo's tariffs in terms of pre-notification and no pricing below cost as stipulated in Ooredoo's Public Mobile Networks and Services License. Ooredoo is in a position where it is able to leverage its control of fixed infrastructure into mobile and enjoy lower transmission cost and better mobile backhaul. With the advent of 4G and soon of 5G, fibre backhaul will become a necessity.

4.3 Vodafone Qatar also experiences unfair challenges for enterprise customers as most enterprise customers in Qatar prefer to have all their telecommunications services from one service provider. This comes as a result of Ooredoo having been the sole provider of telecommunications services in Qatar until the market was liberalised in 2008 and the absence of fit-for-purpose access products, despite the dominance of Ooredoo. The industry's move to converged services also feeds into this need for Vodafone to have a fixed presence in the market. Vodafone Qatar has lost major business tenders due to the lack of fixed infrastructure.

5. Remedies

5.1 Vodafone Qatar welcomes the conclusions of the CRA that specific remedies and wholesale access products should be introduced. Whilst we consider the "Three Criteria Test" introduced by the CRA is unlawful, we concur with the CRA's conclusion that the test is met in the relevant markets involving fixed infrastructure.

5.2 In our view, to establish effective competition in fixed broadband (consumer and business) markets and to also address some of mobile market related issues, the following wholesale products should be prioritised by the CRA and be launched within the next 12 months:

Duct access and dark fibre: dark fibre should be made available to enable service differentiation and greater control of QoS parameters. This will support competition mainly in the leased lines, including mobile backhaul market.

Leased lines: fit-for-purpose leased lines are critical to open up the business market to competition and for mobile backhaul

Bitstream/VULA: fit-for-purpose bitstream products enabling service differentiation with appropriate QoS parameters should be implemented to open the fixed broadband market to competition.

5.3 Vodafone Qatar considers the above wholesale products as complementary in nature and necessary to constrain Ooredoo's market power over the time horizon of this market review.

5.4 Duct access alone will not be sufficient in the short to medium term to address current market imbalances taking into consideration Vodafone Qatar negligible fixed customer base and the economics of fixed networks. The above product mix is standard for well-developed regulatory regimes in Europe.

5.5 In accordance with the Telecommunications Law No. 34 of 2006, the above wholesale products should be offered on a non-discriminatory basis, enable effective downstream competition, be offered at cost based rates and complemented by appropriate SLAs and SLGs.

5.6 In light of Ooredoo's dominance, its past behaviour and repeated breaches, retail regulation remains critical and should be strengthened to ensure that retail offers of Ooredoo can be replicated using wholesale services (e.g. bitstream and leased lines). In the business segment, specific attention should be placed on discount offers. Ooredoo's retail tariff's must subject to all dominant service provider obligations contained in the applicable regulatory framework including the obligation to notify all mobile tariff's to the CRA prior to launch; tariffs should be scrutinized and policed to ensure they are not below cost and do not contain any anticompetitive elements such as cross subsidization.

Part B – GENERAL COMMENTS

1. **The need for Wholesale Access Products and Retail regulation**

1.1 Properly regulated telecommunications markets are critical for the effective functioning of the sector. Vodafone Qatar welcomes the confirmation by CRA of Ooredoo's dominance following the previous designations in 2008, and 2011 and urges the CRA to swiftly implement appropriate and effective remedies to ensure equivalent access to Ooredoo fixed infrastructure which should also be coupled with effective retail regulation in order to support further liberalisation and competition in fixed line markets.

1.2 We are also concerned with the state of competition in the mobile market and submit that the decision by the CRA that Markets M5a and M5b, through application of the TCT, are not susceptible to ex-ante regulation is not supported by the applicable regulatory framework Vodafone submits that Ooredoo continues to enjoy a dominant position in the mobile market and the DSP obligations envisioned under the Telecommunications Law No 34 of 2006, The Executive By law No 1 of 2009 and both Fixed and Mobile Public licenses (together the "**Applicable Regulatory Framework**" or "**ARF**") should be restored and continue to be enforced on Ooredoo.

1.3 Competition in mobile is distorted by Ooredoo's control of fixed access bottleneck to which we do not have access and which enable it to enjoy a lower cost base, this applies to our transmission and mobile backhaul.

1.4 The CRA published its policy in 2015 to shift focus from ex-ante regulation to wholesale access regulation. We agree that there should be a progressive shift only when fit for purpose wholesale access and appropriate safeguards at the retail level to prevent anti-competitive behaviours are in place. This is not the case.

2. **Mobile growth**

2.1 Since launching commercial services in 2009, growth in customer numbers has been strong and growth in revenue market share gathered momentum in 2013 and 2014, however, this growth was significantly reduced when Ooredoo ceased complying with its obligations under the ARF of pre-notifying its tariffs to the CRA and all tariffs not to be below cost. Ooredoo has continued to maintain very high share of total revenue market share (well in excess of **[redacted]** %). Vodafone Qatar, as a matter of public policy, supports light-touch regulatory regimes in well-functioning markets and believes that healthy competition brings the maximum benefits to markets and consumers.

2.2 Accordingly, in principle, Vodafone Qatar does not support indefinite retail regulation in markets that tend towards competitiveness. However, where market failure is apparent due to unlawful actions of the dominant service provider and the underlying wholesale problems are not being effectively addressed, retail regulation intervention is required in the interest of the market and consumers, until such a time as the market failure is observed to be resolved by reference to factual market indicators. Vodafone Qatar submits that ex-ante regulation should be maintained in mobile voice and broadband markets. We consider the rationale to be particularly compelling in respect of enterprise customers as acknowledged by the CRA.

3. **Fixed growth**

3.1 When looking at the market share of Ooredoo in the fixed voice and broadband market there is no sign that the retail market is effectively competitive or moving towards effective competition in the near future. Ooredoo maintains revenue market share exceeding **[redacted]** % in the fixed voice and broadband market. It is also worth noting that the pricing of retail fixed voice and broadband access has remained relatively stable over time.

3.2 As recognised by CRA, given the economics of fixed networks, fit for purpose wholesale access to Ooredoo is necessary to enable competition in a range of markets, including fixed broadband and leased lines. Absent effective wholesale access, consumers and business will continue to be deprived of choice through lack of effective competition. Due to the high market shares and relatively stable prices in the retail fixed markets, Vodafone Qatar believes that there is a clear need for fit-for-purpose wholesale products which will allow competitors of Ooredoo to provide retail voice and broadband services in competition with Ooredoo, with no barriers to switching and priced at a level that allows a reasonable return for efficient operators (i.e. there is no margin squeeze). The CRA will therefore need to ensure that both the price and non-price conditions of the wholesale products are non-discriminatory and that they enable full economic and technical replicability of the retail offers of Ooredoo. Such replicability and absence of anti-competitive tests of Ooredoo's retail offers (for example. margin squeeze, abusive bundling and cross subsidisation between markets) should be ascertained through the ex-ante notification of Ooredoo's retail offers.

3.3 It is Vodafone's view that for true competition to be realised in all the relevant markets, the right balance of wholesale access regulation and retail regulation must be in place and convincingly policed and applied by the CRA. The CRA's policy direction to shift its entire focus to wholesale regulation should be re-aligned to the Applicable Regulatory Framework. Retail obligations should be actively and effectively applied in all markets where a service provider is designated dominant.

4 Three Criteria Test

4.1 Vodafone Qatar notes the continued use of the Three Criteria Test (**"TCT"**) in this consultation document. As the CRA is aware, Vodafone Qatar's position is that the use of the TCT is not in line with the Telecommunications Law No. 34 of 2016 and the Executive By-Law No.1 of 2009. It is on that basis that Vodafone Qatar has appealed the CRA's Final decision on MDDD Phase I and sought a review of the same in the Administrative Court. Vodafone Qatar's view remains that use of the TCT is in violation of the Competition Policy as set out in Articles 72 to 75 of the Executive By-Law, in particular, the mandated process and considerations relevant for market review and assessing market dominance. In introducing the TCT, the CRA ignored the two-step process required under the ARF. The first step is to define markets on the basis of relevant products and services. The second step is then to consider the market power of the participants on those markets. By applying the TCT the CRA has added an additional test not provided for in the ARF before assessing dominance

4.2 Article 42 of the Telecommunications Law no 34 of 2006 ("**Telecoms Law**") provides that:

The General Secretariat shall undertake the designation of the service providers and determination of the extent of their significant market power or dominance in the market and must prior to making such designation the General Secretariat shall perform the following:

1. *determine relevant products and services markets including the geographic scope or territory;*

2. *determine the standards and methodology to be applied in determining the degree of market power or other standard of significant market power or dominance in relevant markets; and*

3. *conducting an analysis of the relevant products and services markets through applying the identified standards and methodology in specific circumstances.*

The orders designating service providers as having significant market power or dominance must specify the relevant products and services markets and the standards and methodology and circumstances relied upon to justify such designation.

Article (42) (Market Power Designations) of the Telecommunications Law No. 34 of 2006 also notes that:

The Executive By-Law, regulations, rules and orders shall specify the standards, methodology and operations for market power designation.

Article (72) of the Telecommunications By-Law No.1 of 2009 ("**Executive By-Law**") sets out the requirements placed upon the General Secretariat as below.

The General Secretariat shall issue a notice which establishes the standards and methodology that it will apply in determining whether Significant Market Power exists in a particular relevant market. The General Secretariat shall publish the methodology on the website of the Supreme Council and may be modified from time to time by it.

The methodology may include the following elements and any other relevant factors which will be applied in accordance with criteria set out in third paragraph of this Article:

(1) *definition of the relevant telecommunications market or markets in terms of products and geographic scope.*

(2) *assessment of market power based on a review of the economic and behavioural characteristics of the relevant market and an examination of the extent to which a Service Provider, acting alone or jointly with others, is in a position to behave independently of customers or competitors.*

The methodology may include the following criteria for assessing the degree of market power in a relevant market:

(1) *market share.*

(2) *absolute and relative size of the firm in the relevant market*

(3) *degree of control of facilities and infrastructure that would be uneconomical for another person to develop to provide services in the relevant market.*

(4) *economies of scope and scale.*

(5) *absence of countervailing buyer power, including customer churn characteristics.*

(6) *structural and strategic barriers to entry and expansion.*

(7) *any other factors relevant to evaluating the existence of market power in a particular market*

The methodology may also provide guidance on the parameters that will be used for measuring market share (number of lines, number of minutes, revenues or other relevant metrics), and for ease of administration, the General Secretariat may, in the absence of evidence to the contrary, may deem that an individual Service Provider with a share of more than 40 percent of the relevant market is a Dominant Service Provider.

4.3 The applicable legislation clearly prescribes a two-step process whereby markets are defined and market power is assessed and dominance or lack of dominance is declared on the basis of that assessment. The legislation and operator licenses then specify to a considerable degree the applicable remedies. Accordingly, Vodafone submits that the TCT is fundamentally incompatible with the Telecommunications Law and Executive By-Law. Furthermore Vodafone submits that, if the intent of the law was that the CRA had the discretion to determine whether or not markets were susceptible to ex-ante regulation, even if an operator is clearly dominant in that market, the ex-ante remedies (such as the requirement to have tariffs pre-approved) would not be provided for in the legislation itself. As the CRA ("then ictQATAR") itself noted in the 2010 market review process:

"The obligations of a DSP are set out in the Applicable Regulatory Framework (ARF) and either apply automatically or are imposed by ictQATAR as required. Most of the obligations affecting DSPs and non-DSPs are largely pre-defined in the ARF."

5 Ooredoo's dominance

5.1 Vodafone Qatar agrees with the conclusions reached by CRA in considering the above criteria that Ooredoo remains dominant in all the fixed retail and wholesale markets identified by CRA and as evidenced by Ooredoo's revenue market share. Ooredoo's dominance is supported through its control of existing infrastructure, its economies of scale and scope and the barriers to entry and expansion.

5.2 Whilst we do not agree that CRA should use the TCT, we consider that the evidence available to the CRA clearly demonstrates the TCT is met for each of the fixed wholesale and retail markets. In that sense, we agree with CRA's conclusion.

5.3 As explained above the Applicable Regulatory Framework sets out the relevance of high market shares. The CRA may deem that an individual service provider with a share of more than 40 per cent of the relevant market is a dominant service provider. Furthermore, Vodafone Qatar submits that the CRA should take guidance from the EU law presumption of dominance in cases of very large market shares, in excess of 50%. In this regard the onus is entirely on a dominant service provider to prove that it no longer enjoys a dominant position on any of the markets in which it currently operates. Furthermore, even if a dominant service provider is able to prove a gradual loss of market share on any of the markets under review, in line with the legal position under EU competition law, Vodafone Qatar would argue that, although this may well indicate that the particular market or markets in question is or are slowly becoming more competitive, this in no way precludes a finding of significant market power.

5.4 In this regard, Vodafone Qatar considers that both sales in value to determine relative revenue market share and associated customer market share should be considered to better reflect the relative position and strength of each service provider rather than sales value alone. This is due to the reality that SIM duality in Qatar is in excess of **[redacted]** % of active customer numbers. This tells us that most customers in Qatar hold dual SIM cards for various reasons, including but not limited to price sensitivity of particular market segments and the appreciation of easy to remember numbers by other segments. Revenue market share is also seen as a more reliable way to measure market power as Ooredoo continues to enjoy significant incumbency advantages with regards to high ARPUs customers.

5.5 Because of the extent of redacted information, we are unable to provide further comments and analysis on the evolution of volume and revenue market share. The CRA receives quarterly MDDD reports from both Vodafone Qatar and Ooredoo, therefore the CRA should have a clear picture of both volume and revenue market shares which Vodafone believes are still heavily in Ooredoo's favour.

5.6 Another key indicator of market power is non-transitory excess profits. In that regard, we are surprised that CRA has not conducted an analysis of the regulatory accounts of Ooredoo. In 2015, Ooredoo EBITDA margin stood at **[redacted]** %.

6 **Remedies**

6.1 Vodafone Qatar is concerned that only 5 pages of the 100 page consultation document are dedicated to remedies and submits that Ooredoo's dominance in most of the relevant markets/sub-markets cannot be denied. Accordingly, our view is that the emphasis should be on the remedies required in the market.

6.2 We further note the lack of any mention of either structural or functional separation of Ooredoo as a potential remedy. To-date, Ooredoo's wholesale activities and Ooredoo's retail activities are still under the same entity and, without structural separation of both activities; the incentives and ability to discriminate will always remain. Further because the CRA lacks sufficient enforcement powers to enforce strict and timely compliance with the appropriate remedies. Fixed infrastructure is critical to enabling competition in fixed broadband services, IPTV, and services to business. Competition in mobile is also increasingly linked to competitive conditions in fixed through converged offers and the increased use of mobile data which requires high-bandwidth fibre backhaul.

6.3 Vodafone agrees with the CRA that there are high barriers to entry and expansion in the fixed infrastructure market in that entrants have to invest significant amounts in the civil works required to build the duct network infrastructure for providing both retail and wholesale services. Duplicate duct infrastructure is both uneconomic and unfeasible from a permitting perspective. The reality is that the relevant Ministries would not permit construction of duplicate duct infrastructure.

6.4 Although the CRA has finalised the Ooredoo Reference Infrastructure Offer ("RIAO"), there remains a need for additional complimentary wholesale products/remedies which will enable Vodafone Qatar to compete in fixed line markets and compete more effectively in mobile markets (in particular the enterprise market which demands bundled and converged offerings) in the near term. Vodafone submits that such wholesale products should be provided by Ooredoo based on equivalent treatment of wholesale customers and its own downstream business. This is a general requirement for DSP's with regards to wholesale access, the purpose of which is to ensure that Ooredoo's retail offers can be economically replicated by competitors. The European Commission regulatory framework provides for access remedies at an upstream level to facilitate greater competition. Article 49 of the Executive By Law No 1 of 2009 provides that

Every Dominant Service Provider, shall ensure that, it applies substantially the same terms and conditions to all Service Providers under substantially the same conditions and quality as it provides for its own telecommunications service operations or those of its affiliates; and

It makes available on request, and without delay, all necessary or reasonably required information and specifications to Service Providers requesting interconnection or facilities access.

6.5 Ooredoo has repeatedly argued that provision of wholesale products is a disincentive for Vodafone Qatar to invest in the fixed market. We strongly disagree with this statement. Vodafone Group's global experience, in particular in its European markets, clearly evidences that the availability of passive access is a mechanism to increase investment incentives when coupled with other remedies further downstream. Vodafone Group has seen this in countries where the availability of passive access with other remedies, such as bitstream has enabled network expansion –particularly in Spain and Portugal.[1] However, it remains that the duplication of

[1] http://stakeholders.ofcom.org.uk/binaries/consultations/bcmr-passives/responses/Vodafone.pdf

Ooredoo's network will not be economically or socially desirable and therefore that the right mix of wholesale products at different points in the value chain are entirely necessary if sustainable and effective competition is to be achieved and its benefits realised.

6.6 Below is the list of wholesale products that Vodafone Qatar requires in order to be able to effectively enter and compete in the fixed line market.

6.7 At the high level it is of paramount importance that those wholesale products be offered to Vodafone Qatar on a non-discriminatory basis to create a competitive level playing field and enable the replicability of retail offers of Ooredoo. Those products should be offered on cost based rate with compressive SLAs and SLGs covering the entire product cycle (ordering, provisioning, fault management). A reform of the retail tariff notification will also be required. Vodafone Qatar looks forward to working with CRA and Ooredoo to define the precise definition of those wholesale service descriptions and remedies. In that context we will provide our detailed service requirements.

Table 1.

Remedy/Wholesale Product	**Reason**
Leased Lines	The current Reference Transmission offer does not allow Vodafone to use leased lines from Ooredoo to connect its retail customers. Regulated any to any leased lines will allow Vodafone to connect customers using Ooredoo's access network and this will speed up the time to market as opposed to self-build which will require a significant amount of time and Capex investment and will not be economical in the short to medium term given the dominance of Ooredoo. Leased lines are also crucial for mobile backhaul as 4G and 5G technologies require fibre connection in order to perform optimally. Vodafone is currently self-providing most of its backhaul by using microwave. Going forward there is considerable uncertainty that the throughput capability of microwave-based backhaul will be sufficient to meet the capacity requirements of mobile networks.
Bitstream access to Ooredoo fibre network	This service would allow Vodafone to use Ooredoo's access network to provide competing voice and broadband services in the downstream market for both enterprise and residential consumers. Ooredoo already covers the majority of the households and business with fibre and/or copper.
Duct Access/Dark Fibre	Ooredoo's Reference Infrastructure Access Offer has been finalised, but unfortunately it includes only access to ducts and not dark fibre. Vodafone see the need for both dark fibre and duct access as these inputs are complimentary in nature. Access to dark fibre is necessary for transmission services, mobile backhaul and connection of fixed business and consumer customers. It is crucial for mobile operators to have the option to self-provide backhaul capacity. Without this option, Vodafone would have to rely only on leased lines from Ooredoo or the expensive self-build option. Having this remedy on its own it however not feasible due to the long lead time and significant capex requirement which makes unsuitable to constrain Ooredoo's market power over the relevant time horizon for this market review . However this option, together with the two options above provides adequate access required by Vodafone and create a more level playing field.

7. Additional Remedies on a per market basis

Vodafone Qatar broadly agrees with the remedies set out by the CRA in table 14 of the Consultation Document but believes the CRA should go further in some important respects. The table below sets out the additional remedies we believe CRA should implement on a per market basis.

Table 2

Relevant Market	**Remedies proposed by CRA**	**Remedies proposed by Vodafone**	**Comment**
M1 - Retail national fixed voice and broadband services • M1a - Retail fixed access services • M1b - Retail national fixed call services • M1c - Retail fixed broadband services	RTI /RAS	RTI RAS – Regulatory accounts should be made publicly available, or at least shared with Vodafone	The current RTI is currently under appeal by Vodafone and regardless of the appeal decision Vodafone submits that the RTI should be revised to ensure that it is aligned with the ARF. Ooredoo is obliged under the ARF to pre-notify its tariffs to the CRA and this will become more important with the introduction of regulated wholesale products. The vertical integration of the DSP means that it has the incentives and ability to leverage its market power into downstream markets through the elaboration of various strategies (such as margin squeeze). RAS: the release of regulatory accounts would allow Vodafone to spot price discrimination and excess profits that may exist and hence contribute to improving market outcomes. This is particularly important at a time when new access products are to be introduced to open up market to competition. This is in line with international best practice such as the UK and Ireland).
M2 - Retail international fixed outgoing call services • M2a - Retail international outgoing call services at a fixed location – Residential customers • M2b - Retail international outgoing call services at a fixed location – Business customers • M2c - Retail international outgoing call services from a mobile device – Residential customers • M2d - Retail international outgoing call services from a mobile device – Business customers	RTI /RAS	Same as M1	

M3 - Retail national leased lines services	RTI /RAS	Same as M1	Further concerns arise in relation to leased lines which tend involve bespoke deals with discounted elements. Vodafone submits that the CRA should have visibility of the real tariffs for leased lines. This can be done either through notification of each and every deal or a pre-approved discount structure by the CRA to ensure replicability
M4 - Retail international leased lines services	RTI /RAS	Same as M1 and M3	
M5 - Retail national mobile voice and broadband services • M5a - Retail national mobile voice and broadband services – Residential customers • M5b - Retail national mobile voice and broadband services – Business customers	RAS (for Ooredoo only	Same as M1	As mentioned above, Vodafone believes that Ooredoo remains dominant in both these markets; therefore ex-ante regulation needs to be enforced on Ooredoo.
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Reference Offer and Tariff Regulation; RAS	Agree with CRA	
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Reference Offer and Tariff Regulation; RAS RAS (for Ooredoo only)	Agree with CRA	
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space • M8b - Physical access to NSP's dark fibre and copper, including relevant ancillary facilities/services and collocation space • M8c - Physical access to NSP's ducts, including relevant ancillary facilities/services and	Reference Offer and Tariff Regulation; RAS	Agree with CRA. Wholesale products should be provided on a non-discriminatory basis at cost based rates. Reference offer should be consulted upon and ordered by CRA Comprehensive SLAs and SLGs should be put in place and wholesale and equivalent retail KPIs be made publicly available to spot non-	It is critical that fit for purpose wholesale products are introduced to enable downstream competition. Transparency through the publication of KPIs is critical to enable the spotting of non-price discrimination

collocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).		price discrimination	
M9 - Wholesale broadband access at a fixed location	Reference Offer and Tariff Regulation; RAS	Agree with CRA Same as M8	
M10 - National trunk segment of (national and international) wholesale leased lines services	Reference Offer and Tariff Regulation; RAS	Agree with CRA Same as M8	
M11 - Terminating segment of (national and international) wholesale leased lines services	Reference Offer and Tariff Regulation; RAS	Agree with CRA Same as M8	
M12 - International transit segment of international wholesale leased lines services	Reference Offer and Tariff Regulation; RAS	Agree with CRA Same as M8	
M13 - Wholesale access and origination on public mobile networks	n/a	Agree with CRA	
M14 – Wholesale termination on individual mobile networks	Reference Offer and Tariff Regulation; RAS (for Ooredoo only)	Agree with CRA Same as M8	

8 Wholesale performance (SLAs and SLGs)

Based on the above, Vodafone has the following key SLAs/SLGs "asks" in order to achieve good quality metrics:

(a) SLAs should cover the full lifecycle (i.e. ordering/provision, service availability and fault management) of the product so that the end-to-end customer experience is protected by contractual guarantees;

(b) the Regime should have clearly defined processes for measuring performance, as well as calculating, claiming and paying penalties, which keep overheads to a minimum for both the incumbent and the access seeker;

(c) compliance with SLAs should be measured using consistent methodologies with impartial methods for "stop-the-clock" periods;

(d) there should be timelines to confirm orders. Reasons for rejection should be provided and, where appropriate, alternative procedures proposed. SLAs should apply per fault/event/line and not in aggregate or for average performance;

(e) penalties should be set at levels that incentivise good performance and provide adequate financial compensation to access seekers in the case of SLA breaches;

(f) penalties should be automatically paid by the incumbent when they fail to meet their SLAs (rather than access seekers having to submit penalty claims);

(g) incumbents should provide reports on actual performance against SLAs;

(h) the regime should be free from ambiguity, clearly identifying exceptions and 'step-out' clauses where they may be legitimately applied and provide appropriate regulatory oversight as needed to limit opportunities for gaming;

(i) CRA should collate and publish incumbent service performance: In order to improve transparency and enable the identification of potential discriminatory practices, CRA needs to collate and publish incumbent service performance data in a clear and comparable way. The information published should include wholesale performance and the corresponding performance for the incumbent retail offers. The information should also separate out the performance of the incumbent in providing service for other access seekers against the incumbent's performance in providing services to its own customers.

9. Key requirements Bitstream/VULA

From a commercial stand point the most important characteristics of L2 WAP in order to foster competition are:

(a) ethernet presentation with an appropriate hand-over;

(b) access to the maximum bandwidth possible with transmission uncontended in practice via defined Committed Information Rate with no restrictions of services (voice, data, IPTV, etc) giving the access seeker the ability to control the customer experience (this is critical for business customers) and differentiate with innovative new services;

(c) multicast capability to enable efficient provision of video services such as IPTV;

(d) appropriate VLAN configuration and freedom for access seekers to vary QoS parameters – this is critical for business customers;

(e) ability for access seekers to differentiate how services are delivered to customers with wires-only option for access seekers to provide own branded & integrated NTE/modem/ONT and router CPE.

10. **Key requirements Leased lines**

From a commercial stand point the most important characteristics of leased lines in order to foster competition are:

(a) ethernet interface (layer 2);

(b) product that can be used for business, own transmission and mobile backhaul;

(c) symmetric bandwidths (i.e. same download an upload capacities);

(d) high speeds with availability of access bandwidths up to 1Gbit/s or above;

(e) uncontended (or the capability to design in a manner which is uncontended) i.e bandwidth is dedicated and not shared amongst customers;

(f) a high level of service guarantee (as would be expected for business purposes such as 24/7 repair;

(g) options of redundancy;

(h) appropriate demarcation points.

Examples of service description that can be drawn upon include the BT' Ethernet Access Direct product and Batelco's WLA product.

11. **Key requirements Dark fibre**

From a commercial stand point the most important characteristics of a dark fibre in order to foster competition are:

(a) GPON (Gigabit Passive Optical Network) to reach widespread residential and small to medium business premises;

(b) Point to Point access 1 private fibre connection directly connecting a certain premise with Central Office ("CO") using one dedicated fibre strand;

(c) a Point-to-Point two ; fibre connection directly connecting a certain premise with central office using two dedicated fibre strands;

(d) the product should be able to provide the customers with a complete end-to-end connectivity between the different branches and data centres of their premises at very high capacities (>1 Gbps);

(e) central office to central office connection;

(f) Point to Point Flat Ring Connection directly connecting a premise with the CO using four dedicated fibre strands;

(g) Point to Point long distance connectivity;

(h) mobile base station fibre connectivity]

(i) Co-location;

(j) SLAs required that will meet needs of both residential and business customers.

PART C – ANSWERS TO CONSULTATION QUESTIONS

Please note that the executive summary and general comments provided in Parts A and B above are intended to be read together with and to constitute an integral part of our response to the specific questions listed below.

Assessment of retail service related Candidate Markets

Q1. Do you agree with the Authority's application of the TCT to the markets for retail national fixed voice and broadband services (M1a, M1b and M1c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide evidence supporting your response.

Please refer to Vodafone Qatar's comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar agrees with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on these markets as per the requirements of the Applicable Regulatory Framework. As noted by the CRA, Vodafone Qatar is providing fixed services in the Pearl, Barwa City, Barwa Commercial and a limited part of the West Bay central business district area. The number of customers and total revenues associated with this coverage is negligible in the context of the entire retail fixed markets, where Ooredoo remains overwhelmingly dominant.

Vodafone Qatar has not been able to gain sufficient markets shares due to the lack of relevant wholesale access and the lack of clear regulatory strategy for the development of the fixed line services. Notwithstanding the establishment of Qnbn in 2011 required to provide nation-wide coverage within three year sits footprint is also currently limited and it appears to have reduced its scope– although Vodafone is not aware of any change to its license requirements in this regard. Vodafone does not believe that there will be significant change in the competitive environment in short to medium term unless there is a step change in the regulatory environment. With an appropriate suite of wholesale services there can be a significant improvement in competitive outcomes.

Q2. Do you Agree with the Authorities preliminary findings of its dominance assessment in the Sub markets for retail national fixed broadband services (M1a, M1b and M1c), and its preliminary conclusion that Ooredoo remains a DSP in these sub markets? Please explain your answer and provide any evidence supporting your response.

Vodafone agrees with the CRA's preliminary conclusion that Ooredoo is DSP in these sub markets. Vodafone submits that there no is question regarding Ooredoo's dominant position in these relevant sub markets. As noted above, Vodafone Qatar's penetration of the fixed market has been severely limited due to the difficulty in getting access to wholesale services. Ooredoo continues to have significant customer and revenue market shares in these sub markets.

Q3. Do you agree with the Authority's preliminary findings of its dominance assessment in the Sub Markets for retail international outgoing call services from a fixed location (M2a and M2b), and its preliminary conclusion that Ooredoo remains a DSP in these Sub Market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with CRA's preliminary findings of Ooredoo remaining dominant in these submarkets. The CRA has correctly pointed out that since 2013, the share of international volumes from a fixed location remains a very small share of the total market. Both Vodafone Qatar and Ooredoo have submitted quantitative and qualitative data to the CRA during the information request phase, therefore

CRA has the whole picture on market shares and revenue shares which enables them to reach the conclusions found in this document.

Q4. Do you agree with the Authority's application of the TCT to markets for retail national leased lines services (M3), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless Vodafone agree with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on these markets as per requirements of the Applicable Regulatory Framework.

Q5. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail national leased lines services (M3), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

We agree with CRA's conclusion and analysis. Ooredoo remains in control of the key infrastructure used to deliver national leased lines in Qatar.

As Vodafone Qatar faced significant challenges to roll out fixed infrastructure. Partnering with Qnbn was supposed to enable Vodafone to use Qnbn's passive infrastructure in order to provide services to customers, however, Qbnb's rollout has been limited to-date due to constraints regarding access to ducts amongst other political issues. The CRA finalized and published Ooredoo's Reference Infrastructure Access Offer ("RIAO") in November 2015 with a regulated price for access to ducts. The RIAO is a positive way forward and Vodafone Qatar has initiated negotiations with Ooredoo on the RIAO, however the time and effort required to get access to ducts and roll out dark fiber is too long, therefore other wholesale access products need to be made available such as bitstream and leased lines.

Q6. Do you agree with the Authority's application of the TCT to markets for retail international leased lines services (M4), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, we agree with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on these markets as per requirements of the Applicable Regulatory Framework.

Q7. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for retail international leased lines services (M4), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

We agree with CRA's conclusion. It is clear on any objective assessment that Ooredoo remains dominant in this market as Vodafone Qatar currently barely provides international leased line products in this market. The size of the market is very small and Ooredoo has the majority of the customers and associated revenues.

Q8. Do you agree with the Authority's findings that the markets for retail national mobile voice and broadband services (M5a and M5b) are not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar does not agree with the CRA's preliminary finding that the markets for retail national mobile voice and broadband services are not susceptible to ex-ante regulation. Ooredoo remains to have significant revenue and customer market shares in this market.

Since ex-ante retail pricing obligations on Ooredoo have been removed in these markets, Vodafone Qatar has experienced very significant negative financial impact with **[redacted]** % decline in revenue and **[redacted]** % decline in EBITDA year on year (when comparing the first quarter financial results in financial year 2015 with the first quarter results in financial year 2016). We also refer you to the figures referenced in paragraphs 2.3 and 2.4 in Part A above which speak to the impact of the removal of ex-ante retail pricing regulation.

As the CRA is aware, the decision to instruct the CRA to effectively remove Ooredoo's retail pricing dominance restrictions is the subject of current litigation in the Administrative Courts. Vodafone Qatar had a detailed assessment of the financial impact of the removal of these restrictions prepared in respect of these proceedings and would be happy to provide a copy of this to the CRA for its information. Further, as the CRA is also aware, Vodafone Qatar is challenging the Phase 1 MDDD Final Decision issued in July 2015 which concluded that these markets are no longer susceptible to ex-ante regulation.

Vodafone Qatar's view is and remains that the removal of ex-ante retail regulation was premature and has led directly to clear trend back towards the re-monopolisation of mobile markets.

Assessment of wholesale service related Candidate Markets

Q9. Do you agree with the Authority's application of the TCT to markets for wholesale call origination on public telecommunications networks at a fixed location (M6), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to Vodafone's comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless Vodafone agree with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework

Q10. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale call origination on public telecommunications networks at a fixed location (M6), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's findings of Ooredoo's dominance, including that there are high and non-transitory barriers to entry for providers of wholesale call origination on public telecommunications network at a fixed location, the biggest barrier being the high costs required to build a competing national fixed network infrastructure.

Q11. Do you agree with the Authority's application of the TCT to markets for wholesale termination on individual telecommunications networks at a fixed location (M7), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above.

Q12. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual telecommunications networks at a fixed location

(M7), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in termination on their own networks? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's preliminary conclusion that both Vodafone Qatar and Ooredoo are dominant on their respective dominance due to the fact that each service provider controls termination access to its own customers. Regulated termination rates are already in place to remedy the dominance of both service providers.

Q13. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' mobile sites, masts, towers, including relevant ancillary facilities/services and collocation space (M8a), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Vodafone Qatar agrees with the CRA that the each service provider generally self-supplies its own masts, towers and ancillary equipment to support its mobile network. However, access to leased lines for mobile backhaul remains critical for Vodafone Qatar to be on par with Ooredoo as it provides transmission services to itself. Vodafone Qatar agrees that the degree of site sharing is limited in Qatar, however, site sharing is not only provided by Ooredoo. Vodafone Qatar shares its sites with Ooredoo also. The current outdoor site sharing status is as follows:

[Redacted]

Q14. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar submits that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework.

Q15. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' dark fibre, including relevant ancillary facilities/services and collocation space (M8b), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's preliminary conclusion that Ooredoo is a DSP in this market. The CRA provides that Qnbn is the key supplier of dark fiber to third parties in Qatar. This is correct, however, it is important to emphasise that Qnbn's geographic dark fibre coverage is very limited. Vodafone Qatar is currently using Qnbn's dark fiber in Barwa city and some parts of West bay. Qnbn is currently treating most fiber connection requests from Vodafone Qatar as "special projects" because of the limited coverage which makes it significantly less financially attractive (and sometimes financially unviable) for Vodafone Qatar to use Qnbn's fiber.

The information regarding Ooredoo's volume of dark fiber is redacted in the consultation document, however, Ooredoo has a fiber coverage map[2] on their website which shows the areas where Ooredoo has rolled out fiber network and the map shows that Ooredoo has covered almost all of Doha and Dukhan with

[2] http://www.ooredoo.qa/portal/OoredooQatar/fibre-coverage-map?gomap

fiber as well as Messaieed and Al Khor, which makes them by far the network operator with the greatest volume of dark fiber.

Although Vodafone Qatar is currently the only access seeker of dark fiber, it has very limited countervailing buyer power since Ooredoo is currently not supplying Ooredoo fiber to anyone except itself. Further, Qnbn's prices are not currently regulated and therefore not necessarily cost based. As pointed out by the CRA, private developers are likely to roll-out only limited amount of dark fiber which could only be used only in specific circumstances as fixed access backhaul to the development itself.

Ooredoo has argued in the past that it is not required to offer access to dark fiber. Vodafone Qatar submits that the ARF is very clear in this respect. Article 23 of the Telecommunications Law provides that:

> *"The General Secretariat may decide for the purposes of Interconnection or access, to designate any of the Service Providers as being a dominant service provider in one or more telecommunications markets and this shall be in accordance with the competition policy, principles and procedures set out in Chapter nine of this Law"*

The CRA has carried out its duties under the legislation and defined relevant markets, and Market M8 covers wholesale physical access to network infrastructure and sub-market M8b specifically includes dark fibre. As mentioned above Vodafone Qatar believes that Ooredoo's dominance in this market is obvious , therefore the next step should be for the appropriate remedy to be imposed which is for Ooredoo to provide wholesale access to dark fiber.

Q16. Do you agree with the Authority's application of the TCT to markets for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar agrees with the CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo in respect of this market as per requirements of the Applicable Regulatory Framework.

Q17. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for physical access to NSPs' ducts, including relevant ancillary facilities/services and collocation space (M8c), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's preliminary conclusion that Ooredoo is a DSP in this market. The fact that Ooredoo operates the only duct network with national coverage in Qatar is sufficient for the Authority to reach this conclusion. Vodafone Qatar and Qnbn have deployed their own duct networks on a very limited basis because of the cost and the permissions required. Qnbn mostly leases ducts from Ooredoo. Vodafone Qatar agrees with the CRA's view that it is relevant to consider available duct capacity and self-supply.

Ooredoo has already issued its Reference Infrastructure Access Offer which provides for access to its ducts. The reference offer itself signals Ooredoo's acceptance of its dominance in the market and Vodafone Qatar submits that the market has not changed since the reference offer was issued therefore the preliminary conclusion that Ooredoo is dominant in this market is justified.

Q18. Do you agree with the Authority's application of the TCT to markets for access to international gateway facilities required to gain international connectivity (M8d), and its

preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar agrees with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo in this market as per requirements of the Applicable Regulatory Framework

Q19. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for access to international gateway facilities required to gain international connectivity (M8d), and its preliminary conclusion that Ooredoo is a DSP in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's conclusion that Ooredoo is a DSP is this market. Although there is currently sufficient capacity and no demand for access to gateway facilities beyond self-supply, Vodafone Qatar submits that there is a need to enhance existing resilience on international gateway connectivity and to achieve this, Vodafone might need regulated access to Ooredoo's landing stations in the future.

Q20. Do you agree with the Authority's application of the TCT to markets for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that the Dominance Assessment MDDD 2016 – non-confidential version– 15/100 market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar agrees with CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework

Q21. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale broadband access at a fixed location (M9), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the Authorities preliminary findings that Ooredoo remains DSP in this market. The superfast broadband market is an important and growing new market and wholesale broadband access at a fixed location is currently offered exclusively by Ooredoo. Ooredoo owns and controls the key physical network necessary to deliver these services. With basically zero competition in this market, there can be no argument about Ooredoo's dominance in this market.

Q22. Do you agree with the Authority's application of the TCT to markets for national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to Vodafone Qatar's comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless Vodafone Qatar agrees with the CRA that the TCT is met and that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo in this market as per requirements of the Applicable Regulatory Framework.

Q23. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the national trunk segment of (national and international) wholesale leased lines services (M10), and its preliminary conclusion that Ooredoo remains a DSP in that market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's preliminary conclusion that Ooredoo remains a DSP in this market. As the CRA acknowledges, Ooredoo is the only nationwide provider of the trunk segment of wholesale leased lines in Qatar, therefore they currently face no significant competition in this market. As mentioned above, leased lines wholesale product are crucial for Vodafone Qatar's entry into the fixed market and to foster competition and choice for customers especially business customers.

Q24. Do you agree with the Authority's application of the TCT to markets for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar submits that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework.

Q25. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for the terminating segment of (national and international) wholesale leased lines services (M11), and its preliminary conclusion that Ooredoo remains a DSP in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the Authority's preliminary conclusion that Ooredoo remains a DSP in this market. As CRA mentioned, Ooredoo is the only nationwide provider of the trunk segment of wholesale leased lines in Qatar, therefore they currently face no significant competition in this market. As mentioned above, leased lines wholesale product are crucial for Vodafone Qatar's entry into the fixed market and to foster competition and choice for customers especially business customers.

Q26. Do you agree with the Authority's application of the TCT to markets for the international transit segment of international wholesale leased lines services (M12), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar submits that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework.

Q27. Do you agree with the Authority's application of the TCT to markets for the wholesale access and origination on public mobile networks (M13), and its preliminary conclusion that the market is not susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar believes that the wholesale access and origination on public mobile networks market is a competitive market, therefore there is no need for ex-ante regulation in this market, simply due to the fact that no service provider is dominant in this market. Vodafone Qatar appreciates the effort that the CRA continues to take in order to assist the service providers with getting building permits from the relevant municipalities, however, despite this conclusion, we believe the CRA needs to regulate both indoor and outdoor site sharing between service providers especially because both service providers face significant challenges with acquiring building permits for mobile sites.

Q28. Do you agree with the Authority's application of the TCT to markets for the wholesale termination on individual mobile networks (M14), and its preliminary conclusion that the market is susceptible to ex-ante regulation? Please explain your answer and provide any evidence supporting your response.

Please refer to the comments on the TCT in paragraph 4 of Part B (General Comments) above. Nonetheless, Vodafone Qatar submits that Ooredoo is dominant in this market and ex-ante regulation should be applied to Ooredoo on this market as per requirements of the Applicable Regulatory Framework.

Q29. Do you agree with the Authority's preliminary findings of its dominance assessment in the market for wholesale termination on individual mobile networks (M14), and its preliminary conclusion that Ooredoo and Vodafone are DSPs in this market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the CRA's preliminary conclusion that Ooredoo and Vodafone Qatar are DSP's in this market due to the scope of this market (i.e. termination on individual mobile networks). It is indeed common for each operator to be found to be dominant in the market for termination services on its own network.

Proposed remedies on DSPs

Q30. Do you agree with the Authority's proposed remedies on DSPs in each market? Please explain your answer and provide any evidence supporting your response.

Vodafone Qatar agrees with the Authority's proposed remedies on DSPs in each of the markets with the exception of markets M5a and M5b. Vodafone Qatar submits that Ooredoo remains dominant in these markets, therefore ex-ante retail regulation should still be applied. A summary of remedies we consider are required is set out in the tables above.

Mapping of Ooredoo's 2014 RAS services

31. Do you agree with the mapping of Ooredoo's 2014 RAS to the MDDD candidate Markets

Vodafone Qatar agrees with the mapping of Ooredoo's 2014 RAS to the MDDD candidate markets but believes that the mapping should always be done with the most recent RAS. Therefore, the 2015 RAS should be used as soon as it is completed.

END

Communications Regulatory Authority
State of Qatar

هيئة تنظيم الاتصالات
دولة قطر

Market Definition and Dominance Designation in Qatar - Dominance assessment in Relevant Markets (Phase II)

Economic Analysis and Response Document

CRARAC 09/05/2016 B

May 09, 2016

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1 Background

1.1 Introduction

The Communications Regulatory Authority (**Authority**)[1] regularly reviews the competitive dynamics in the telecommunications sector in order to determine the need for (ex-ante) regulatory intervention. This is referred to as the "Market Definition and Dominance Designation" (**MDDD**) process. Following previous MDDDs in 2008[2] and 2011[3], the Authority is currently conducting this MDDD round.

The need for regular updates of the MDDD is to ensure that any resulting regulation remains up-to-date and in line with the underlying market dynamics.

The key market developments since 2011 and the resulting need for this update is motivated, amongst others, by the following:

- At the time of the 2011 MDDD, Vodafone had only recently entered the Qatari telecommunications market. Since then, the sector has been characterized by the growth of two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar. Given this, the Authority considers it important to assess the resulting impact of the competitive dynamics in the sector.
- Competition in the fixed voice and broadband services and associated wholesale services has not developed sufficiently so far and Ooredoo remains the only Service Provider (SP) on a national scale.
- Vodafone remains reliant on Ooredoo for certain fixed wholesale services.

In June 2014 the Authority issued a policy statement (2014 Policy Statement) setting out its overall approach to regulation of the sector going forward.[4] This, amongst others, stated a focus on regulating wholesale markets and prevailing bottlenecks. This is particularly relevant in markets which are characterised by competing national networks, as is the case for mobile voice and broadband services in Qatar, as there may be no bottlenecks in these markets.

The 2014 Policy Statement has informed this MDDD review in which the Authority's objective is to focus on wholesale regulation where there are identifiable bottlenecks that are causing or are likely to cause issues in the market. In order to achieve this the Authority has chosen to divide existing markets into sub-markets so that different Remedies can be applied. This will have the effect of focussing the Authorities and Service Providers (SP) resources on key areas and ensuring that Regulatory action is proportional to the issues.

The Authority seeks to focus its resources on the most significant competition issues facing the Qatar Telecommunications market. Therefore creating an environment in which there is competition in the fixed markets is a high priority for the Authority while ensuring that incentives

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[1] Note: The Authority has been established as an independent regulatory authority as of April 1st, 2014. It takes over the responsibilities of the former Regulatory Authority within the Supreme Council for Information and Communication Technology (ictQATAR). Thus, for consistency, we use the term "The Authority" in this document although in some of the referenced documents the term ictQATAR may still be used.

[2] http://www.cra.gov.qa/en/document-type/consultations?page=1

[3] http://www.cra.gov.qa/en/document-type/consultations?page=1

[4] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

and rewards for investment into networks exist. The Authority wishes, wherever possible and justified from an economic point of view, to develop wholesale regulation in preference to retail regulation and would anticipate that the number of markets requiring retail regulation would decrease over time.

In preparation for this MDDD update, the Authority has reviewed its MDDD methodology. This has led to the inclusion of a Three Criteria Test **(TCT)**, a commonly applied test to assess the need for ex-ante regulation in a particular service market.

In parallel, the Authority has developed and consulted on a **Competition Policy**,[5] setting out, amongst others, the approach it will take to examining allegations of anti-competitive behaviour by SPs. This Policy forms the basis for any ex-post competition investigation that the Authority will undertake in future.

1.2 Process

The current MDDD process[6] was conducted in two phases:

- **Phase I** – During this initial phase, the Authority developed a list of Candidate Markets as per the defined. Phase I concluded with the issuing of the Final Decision in July 2015 (CRA 2015/RAC/09) in which the Authority concluded there was a need to amend some of the markets to better reflect the dynamics in the sector.
- **Phase II** – During the second phase, the Authority applied the TCT to the Candidate Markets.

During **Phase II**, the Authority has applied the TCT to the Candidate Markets. To the extent that markets meet the TCT, the Authority has then assessed competition in each Relevant Market, with a view to identifying any Dominant Service Providers (DSPs), and determining the regulatory remedies for DSPs.

On February 1, 2016 the Authority consulted on its preliminary results from the Phase II activities (CRARAC 1/02/16). On March 17, 2016 responses were received from Ooredoo, QNBN and Vodafone.

This document summarizes the stakeholder comments received and sets out the Authority's final position on each of the matters consulted on, taking the stakeholder feedback into consideration.

The Final Decision on the Phase II of this MDDD update is published as a separate document[7] (CRARAC 09/05/2016/A)

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[5] http://cra.gov.qa/en/document/documents-related-cras-competition-framework

[6] This exercise follows a consultation in June 2014 on Market Definition - Review of the List of the Relevant markets (CRA 2014/06/025) and a consultation in November 2014 on Review of List of Relevant Markets/MDDD methodology Review (CRA RAC-14-153)

[7] http://cra.gov.qa/en/document

1.3 Preliminary findings on Phase II activities as set out in the consultation

In the consultation, the Authority set out its preliminary findings on the Candidate Markets not assessed as part of Phase I (i.e. those without competing infrastructure), its dominance assessment in each Relevant Market and the ex-ante regulation that should be imposed on DSPs in each Relevant Market. The key findings from this assessment are summarised in the table below, which sets out for all Candidate Markets considered in this MDDD, whether they are considered to be a Relevant Market (i.e., whether they are susceptible to ex-ante regulation) and if so, any dominance designation within these markets.

For the avoidance of doubt these remedies are in addition to the obligations automatically applied to DSPs, and other regulatory obligations imposed on SPs unrelated to dominance (such as, mobile site sharing, open access requirements and regular reporting requirements to the Authority), and remedies imposed on DSPs which are not specific to a particular market (such as the requirement for Ooredoo to prepare and submit Regulatory Accounting System data covering all services it is currently offering (independent of whether it is a DSP in the Relevant Market)).

Table 1. Preliminary assessment of retail and wholesale related Candidate Markets as consulted on

Candidate Market	Relevant Market	Dominance Designation	Proposed remedies
Retail service markets		**Note:** • Retail Tariff Instruction (RTI) requirements applies to DSPs and non-DSPs	
M1 - Retail national fixed voice and broadband services			
• M1a - Retail fixed access services	Yes.	Ooredoo	RTI
• M1b - Retail national fixed call services	Yes.	Ooredoo	RTI
• M1c - Retail fixed broadband services	Yes.	Ooredoo	RTI
M2 - Retail international outgoing call services[8]			
• M2a - Retail international outgoing call services at a fixed location – Residential customers	Yes.	Ooredoo	RTI
• M2b - Retail international outgoing call services at a fixed location – Business customers	Yes.	Ooredoo	RTI
• M2c - Retail international outgoing call services from a mobile device – Residential customers	No.	(n/a)	(n/a)
• M2d - Retail international outgoing call services from a mobile device – Business customers	No.	(n/a)	(n/a)
M3 – Retail national leased lines services	Yes.	Ooredoo	RTI
M4 – Retail international leased lines services	Yes.	Ooredoo	RTI
M5 – Retail national mobile voice and broadband services			
• M5a – Retail national mobile voice and broadband services – Residential customers	No.	(n/a)	(n/a)
• M5b – Retail national mobile voice and broadband services – Business customers	No.	(n/a)	(n/a)
Wholesale service markets			

[8] As part of Phase I of this MDDD update, the Authority already concluded that the markets for retail international outgoing call services via a mobile device for residential customers (M2c) and business customers (M2d) are not susceptible to ex-ante regulation.

Candidate Market	Relevant Market	Dominance Designation	Proposed remedies
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Yes.	Ooredoo	Reference Offer and Tariff Regulation
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Yes.	Ooredoo, Vodafone	Reference Offer and Tariff Regulation; Accounting Information (VF)
M8 - Wholesale physical access to network infrastructure			
• M8a - Physical access to SPs' mobile sites, masts, towers, including relevant ancillary facilities/services and colocation space	No.	(n/a)	(n/a)
• M8b - Physical access to SPs' dark fiber and copper, including relevant ancillary facilities/services and colocation space	Yes.	Ooredoo	Reference Offer and Tariff Regulation
• M8c - Physical access to SPs' ducts, including relevant ancillary facilities/services and colocation space	Yes.	Ooredoo	Reference Offer and Tariff Regulation
• M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	Yes.	Ooredoo	Reference Offer and Tariff Regulation;
M9 - Wholesale broadband access at a fixed location	Yes.	Ooredoo	Reference Offer and Tariff Regulation;
M10 - National trunk segment of (national and international) wholesale leased lines services	Yes.	Ooredoo	Reference Offer and Tariff Regulation;
M11 - Terminating segment of (national and international) wholesale leased lines services	Yes.	Ooredoo	Reference Offer and Tariff Regulation;
M12 - International transit segment of international wholesale leased lines services	No.	(n/a)	(n/a)
M13 - Wholesale access and origination on public mobile networks	No.	(n/a)	(n/a)
M14 - Wholesale termination on individual mobile networks	Yes.	Ooredoo, Vodafone	Reference Offer and Tariff Regulation; Accounting Information (VF)

Following the consultation, this document sets out the key responses received on the consultation and the Authority's final position on each matter consulted on. This is presented in sections 2-5 below. Section 6 then presents the summary conclusions and final decision.

2 General comments

Further to responding to the Authority's consultation questions, Ooredoo and Vodafone submitted general comments within their consultation responses. The key aspects of these general comments are summarised below, including the Authority's position on each.

2.1 Government Policy

2.1.1 Policy Statement "Regulating for the Future"

2.1.1.1 Service Provider's responses to the CD

Ooredoo believes that the MDDD strikes the wrong balance between promoting competition and achieving government policy to promote investment. Since three of the four targets set by the government have already been met, Ooredoo believes the Authority is setting regulation without clearly articulating its objectives.

2.1.1.2 The Authority's comments and conclusion

The Policy Statement issued in June 2014 explains the Authority's goals, namely:

- To establish a regulatory framework that will answer growing end-users expectations for the competitive delivery of innovative, diverse, fast, and reliable communication services at affordable prices; and
- To ensure the efficient management of scarce resources and infrastructures in such a way that access to them is made available to all players on fair, equal and reasonable terms.

According to the Policy Statement, the Authority's objective is to enable access at all layers in the network (i.e. infrastructure, transport and service layers), to allow a wide variety of physical networks and applications to interact in an open architecture. The Authority however does intend to prioritise regulatory actions on bottleneck areas where there are clear issues in the development of a competitive overall market.

The Authority's approach to regulation is dynamic and may evolve or change according to the impact of that regulation. It is therefore committed to regularly monitoring sector performance and development.

The Authority considers that the decisions it is taking in this proceeding are consistent with the objectives set in the Policy Statement. In particular:

- The focus of the Authority is now on the wholesale markets, with a relaxation of the obligations on the retail mobile markets (where there is clear evidence of emerging competition at the retail level); and
- The Authority is now allowing access to both active and passive wholesale services, which is necessary to enable facility and service-based competition, as neither alone is deemed sufficient to deliver the high standards of services required to support the economic diversification targeted by Qatar.

The Authority's action in the fixed markets has been also inspired by the Ladder of Investments approach implemented by many European (and other) regulators as a means of implementing unbundling in a way which progressively promotes competitive providers 'infrastructure investment in fixed networks.

In Qatar, until now, infrastructure-based competition has only emerged in mobile markets, with Ooredoo retaining a very strong position in fixed markets (despite Vodafone entering these markets in 2014).

In the Authority's view, there therefore remains a need to impose ex-ante regulation on Ooredoo in both retail and wholesale fixed markets in order to facilitate effective competition emerging for these services and to stimulate alternative service providers to undertake efficient levels of investment in certain parts of the network in the medium / long term. The Authority will then review the continuous need for retail and wholesale obligations on Ooredoo, in light of any concrete evidence of competition emerging in the relevant markets.

2.1.2 Comparison to UAE

2.1.2.1 Service Provider's responses to the CD

Ooredoo refers to the UAE as relevant benchmark on how to regulate telecommunications services.

2.1.2.2 The Authority's comments and conclusion

The Authority generally considers benchmarking a useful tool to review international precedent on approaches to regulation. However, any conclusions from benchmarking need to be considered carefully given prevailing differences between jurisdictions and the circumstances under which certain regulatory or policy decisions have been made. This also holds for a comparison between the UAE and Qatar, as suggested by Ooredoo.

In particular, on the fixed markets, the Authority notes that UAE and Qatar are not comparable.

In the UAE:

- The two fixed service providers (i.e. Etisalat and du) are network monopolists in their respective geographies.
- Given this, both service providers would gain from signing agreements to access the customers of its competitor in areas outside of their own fixed network coverage.
- The Authority understands that the stimulus above has determined the signature of an agreement for the reciprocal provision of the Bitstream Access.

In Qatar, the competitive scenario is very different. Ooredoo owns and operates the only nationwide fixed access network and is the only dominant service provider in the fixed access markets. As such, it has less incentive to sign an agreement for the provision of wholesale fixed products (i.e. Broadband Access and Leased Lines). This means the intervention of the Authority is required. The Authority further notes that it took several years for the bitstream agreement in the UAE to be completed.

The Authority also notes that the two Emirati service providers are now negotiating an agreement for access to their respective ducts. This is quite relevant and demonstrates the relevance of the ladder of investment approach: a regulator opens up a market to competition with active wholesale products and then moves (or introduce in parallel) passive wholesale products.

2.2 Approach

2.2.1 Application of the Three-Criteria-Test

2.2.1.1 Service Provider's responses to the CD

Ooredoo considers that the Authority's approach to the TCT is incorrect when compared to international precedent. It believes wholesale remedies should be taken into account when assessing retail markets, to prevent over-regulation and subsequent decline of competition in retail markets. It substantiates its claim with citations from TRA Oman, TRA UAE and the European Regulators Group and delineates on the TCT methodology as set out by the European Commission.

Vodafone disagrees with the TCT implemented by the Authority. It considers the TCT is contrary to the two-step process set under the ARF. It substantiates this with evidence from the Telecommunications Law and the Executive By-Law.

2.2.1.2 The Authority's comments and conclusion

The Authority maintains its position as set out in the consultation. It reminds the service providers that the approach for implementing the TCT had been set in Phase I of the MDDD and any concerns raised addressed previously.

As set out in the Final Decision of Phase I (CRA 2015/RAC/009) and repeated in section 5 of the Phase II consultation document, the tendency to competition in the context of the TCT is assessed through a "modified greenfield approach", meaning that any such tendency is assessed in the first instance under a hypothetical scenario in which no ex-ante regulation is in place. Where the Authority finds that barriers to entry are high or the tendency to competition is unlikely, the Authority then considers whether existing or alternative ex-ante wholesale remedies are sufficient to create a tendency to competition in the retail market.

This approach has also been adopted in Phase II of this MDDD process. In its application of the TCT to the retail Candidate Markets, the Authority has assessed (in a separate sub-section) whether wholesale remedies would negate the conclusion that the Market under consideration is susceptible to ex-ante regulation. Whilst this discussion has focussed on existing wholesale remedies, the Authority's conclusions would have not been altered based on explicitly extending this assessment to potential alternative wholesale remedies.

In particular, in each of the retail fixed Candidate Markets considered, Ooredoo has a market share in excess of 90%. In these circumstances the Authority considers it prudent to retain ex-ante regulation in each of these Markets until there is clear evidence that competition emerging in those markets. Indeed, the Authority notes that this is consistent with approaches taken by almost all regulators, when markets have been at a similar stage of development to those in Qatar today.

The Authority notes that Vodafone is currently appealing the Authority's Notice and Orders on phase 1 of the MDDD process in the Administrative Courts.

2.2.1.3 Dominance Assessment

2.2.1.4 Service Provider's responses to the CD

Ooredoo is concerned that the Authority seems to be too focused in its dominance assessment on market shares and neglects also considering other criteria (such as pricing behaviours, trends, barriers of expansion or control of infrastructure).

Vodafone believes service providers' strength is better reflected by revenue market share than subscriber market share, owing to high SIM duality in the country. This also suggests that consumers in some particular market segments are highly price sensitive. Vodafone additionally believes that evidence of non-transitory excess profits should be used to assess dominance.

2.2.1.5 The Authority's comments and conclusion

The Authority believes it has already considered Ooredoo's comments in the consultation, since its dominance assessment has been carried out after considering a range of factors, detailed in section 5.3 of the consultation. These include, amongst others, the control over essential facilities and infrastructures, barriers to entry and/or expansion, pricing behaviour, and the existence of countervailing buyer power.

In response to Vodafone's comment on incorporating both revenue and subscriber market share in the analysis, the Authority notes that this has already been considered in the consultation. Both financial and non-financial criteria have been studied and all bottlenecks considered in the process of assessing dominance. The Authority agrees that revenues shares are commonly more relevant in a dominance assessment and this is reflected in its analysis underlying this MDDD process.

2.2.2 Regulatory impact assessment

2.2.2.1 Service Provider's responses to the CD

Ooredoo believes that in order to assess the impact of proposed remedies, the Authority should conduct a Regulatory Impact Assessment (RIA) before finalising the MDDD process. This should be in consultation with all market players and would be instrumental in preventing over-regulation and ensuring that remedies are not excessively burdensome. Such an approach would be in line with those adopted in Saudi Arabia, the UK, and the European Commission.

2.2.2.2 The Authority's comments and conclusion

The Authority notes Ooredoo's comments. The Authority notes that ex-ante regulatory remedies arising from the MDDD process are not automatically implemented. For example, reference offers for specific wholesale services are requested by the Authority, as and when, they are deemed necessary. As such, the Authority has and will consider the impact of implementing specific remedies in consultation with the industry as these are developed. For example the Authority is currently discussing on Wholesale Leased Lines and Wholesale Broadband services with the industry in order to understand the impact of these projects on the wider market. This impact assessment will necessarily cover various aspects, ranging from retail revenues, to potential increase of wholesale revenues and will also include consumer benefits.

2.2.3 Other comments

2.2.3.1 Service Provider's responses to the CD

Ooredoo believes that Vodafone and QNBN have failed to meet roll out obligations and shouldn't be rewarded for this failure. Obliging Ooredoo to supply fiber on a wholesale basis is likely to disincentivise QNBN and Vodafone from meeting their investment obligations and may in turn disincentivise Ooredoo to undertake any further investment. Ooredoo considers the regulation of government-owned NGA vehicles, such as in the case of QNBN, is in line with international precedence, citing examples in Australia and Singapore. Ooredoo also believes the Authority is underestimating the potential for entry and expansion in the market. It bases this on data and instances since Vodafone's entry in the market.

Vodafone considers Ooredoo is dominant in mobile markets, calling for ex-ante retail regulation in the form of tariff notification and price cost rules. It argues that Ooredoo is able to leverage its control of fixed infrastructure into mobile, resulting in advantages such as lower transmission costs and better mobile backhaul (which Vodafone states is crucial for 4G and 5G).

2.2.3.2 The Authority's comments and conclusion

In response to Ooredoo's comment, the Authority confirms it is not giving undue preference to any service provider. It reminds stakeholders that a MDDD is a tool to assess the effective market position and implement appropriate remedies. License obligations are not covered by the MDDD process and should be covered separately.

The Authority has assessed the competitive dynamics and resulting need for ex-ante regulation in mobile markets as part of Phase I and II of this MDDD process. As discussed in section 6.5 of the Phase II consultation document, this has resulted in the markets for retail mobile voice and national mobile voice and broadband services as not being considered susceptible to ex-ante regulation. A similar conclusion was drawn for the relevant wholesale market (i.e. Market 13, as discussed in section 7.11 of the Phase II consultation document). However, Ooredoo and Vodafone remain dominant in termination services on their respective mobile networks (i.e. Market 14, as discussed in section 7.12 of the Phase II consultation document).

3 Assessment of retail service related Candidate Markets

3.1 Markets for retail national fixed voice and broadband services (M1a, M1b, M1c)

3.1.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that the markets for retail fixed access, national fixed voice and broadband services (including all three Markets M1a, M1b and M1c) remained susceptible to ex-ante regulation. In particular:

- The Markets continue to be characterised by high and non-transitory barriers to entry.
- In all three Markets, there is high market concentration and limited evidence of competitive pressure on prices.
- Competition law may not be sufficient in these Markets as the fixed infrastructure does not face a strong direct competitor, and high market concentration creates risk of excessive pricing behaviour.

Furthermore the Authority considered that the presence of relevant wholesale remedies do not at this stage negate its conclusion that the retail Markets are susceptible to competition.

Given this, the Authority conducted a competition assessment of these Relevant Markets and came to the preliminary view that **Ooredoo has a dominant position** in all three Markets, based on the following observations:

- The Markets are highly concentrated in the hands of Ooredoo.
- Ooredoo is in control of the only national fixed access and core network in Qatar, access to which is required for any SP wishing to provide retail national fixed voice and broadband services throughout Qatar.
- There are high and non-transitory barriers to entry in these Markets.
- Buyers in these Markets do not have sufficient countervailing buyer power to curtail the exercise of market power by the dominant operator.

3.1.2 Service Provider's Responses to the CD

Ooredoo agrees with the Authority on the fixed access and call services Markets, but disagrees on fixed broadband, which it considers are tending to competition as a result of the wholesale remedies that have been put place in related upstream markets. It argues that:

- Effective prices have fallen as higher speeds have been offered at unchanged prices.
- The TCT should have been applied iteratively, by first considering the impact of wholesale remedies. In combination with ex-post competition law, Ooredoo considers that the presence of wholesale remedies is sufficient to remove retail regulation, despite the high market share of incumbents. It argues that there is indeed precedent for this approach from the Netherlands and the UK.

Ooredoo further argues that retail price regulation may lead to tacit collusion resulting in higher prices and dampening innovation. Ooredoo quotes evidence from the UK, Canada and European Commission to substantiate this claim.

Vodafone agrees with the results of the TCT for this Market and the Authority's assessment of Ooredoo's dominant position in the market. In particular, it considers the lack of wholesale access services and clear regulatory strategy to be hindering competition and stresses on the importance of a strong suite of wholesale services.

QNBN has not expressed a position on this finding.

3.1.3 The Authority's Comments and Conclusion

Considering Ooredoo's response to the consultation, the Authority notes the decline in effective prices in the broadband market. However, this argument does not tackle Ooredoo's prevailing strong position in the market, by which it commands more than 95% of the connections and almost 100% of the revenues in the market.

The Authority does not find that the international precedents quoted by Ooredoo provide a convincing rationale to rebut the Authority's preliminary conclusions. The Authority in Qatar is still at a relatively early stage of enforcing effective wholesale regulation, with Ooredoo still having very high market shares in all three of the retail markets under consideration. In comparison the UK market arrived at its current state after more than 20 years of regulation. Retail price regulation on BT was only removed when competitors had effective access to BT's wholesale active products and at a time when BT's retail market share was already declining. The Qatari market is not yet in this position.

In Canada, retail regulation was removed at a time when Canada considered its fixed market to be the most competitive in the world and when competitors had access to a full portfolio of active wholesale products. Moreover, the commission recommended continued access to these wholesale active products for the next three or five years.[9]

Considering Ooredoo's reference to comments by the European Commission, the Authority believes that relevant wholesale measures which would enable OLOs to compete with Ooredoo in the fixed markets do not exist. The Authority's understanding is that wholesale measures were introduced in Europe much earlier, with active products such as bitstream and passive products like local loop unbundling (LLU) and dark fiber and duct access available. The Qatari market has not yet reached this stage of development. As a result, the Authority considers retail regulation remains an essential tool to protect consumers and competition in Qatar.

The Authority, therefore, retains its position as set out in the consultation, identifying Ooredoo as the DSP in all three markets (M1a, M1b and M1c). The Authority considers this is consistent with its analysis and with the data available to it on market shares, which indicate that Ooredoo maintains a market share of over 95% in these markets.

3.2 Markets for retail international outgoing call services at a fixed location (M2a and M2b)

3.2.1 The Authority's view as expressed in the CD

In Phase I of this MDDD update, the Authority applied the TCT to these Candidate Markets and concluded that they remain susceptible to ex-ante regulation.[10]

[9] Please refer to the Canadian Telecommunications Policy Review Panel, Final Report, 2006, section 1.22: https://www.ic.gc.ca/eic/site/smt-gst.nsf/vwapj/tprp-final-report-2006.pdf/$FILE/tprp-final-report-2006.pdf

[10] For further details, please refer to Section 4.6 and 4.7 of CRA 2015/05/12NC and the relevant discussions in CRA 2015/RAC/09.

Given the above, the Authority has conducted a competition assessment of these Relevant Markets. In this, it has come to the preliminary view that Ooredoo has a dominant position in both Markets (M2a and M2b). This was based on the following observations:

- The Markets remain highly concentrated in the hands of Ooredoo.[11]
- Ooredoo is in control of the only national fixed access and core network in Qatar, access to which is required for any SP wishing to provide retail fixed outgoing international direct dialling (IDD) services throughout Qatar.
- There are high and non-transitory barriers to entry in these Markets.
- Buyers in these markets do not have sufficient size to exert countervailing buyer power to curtail the exercise of market power by the dominant operator.

However, the Authority noted that Ooredoo may be facing increasing competitive pressure from OTT service providers in the Market for residential customers (M2a).

3.2.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority's Phase I conclusion to define separate fixed and mobile IDD markets. It considers fixed and mobile IDD are in the same market and provides evidence of substitution between fixed and mobile IDD markets in support of its claim. It further suggests that the decline in fixed line usage can only be partly attributed to an increase in mobile voice usage, with the remaining decline being accounted for by substitution to OTT services.

Notwithstanding this, Ooredoo considers the fixed IDD markets (M2a and M2b) are tending towards competition and thus, fail the TCT. It believes this is especially the case when considering a wider service market that includes mobile IDD and voice over IP (VoIP). Ooredoo argues that the stability in fixed IDD prices reflects intense competition from over the top (OTT) services, with prices not having declined because Ooredoo has sought to prevent a decline in revenue, as opposed to the Authority's view that this is driven by a lack of competition.

Based on the above, Ooredoo disagrees with the conclusions of the Authority's dominance assessment.

Vodafone agrees with the Authority on its preliminary findings in these Markets.

QNBN has not commented on the Authority's preliminary conclusions in these Markets.

3.2.3 The Authority's Comments and Conclusion

The Authority reminds Ooredoo that the market definition exercise formed part of Phase I of this MDDD process. As such, it does not reopen this here. As part of Phase I, the Authority defined separate Markets for fixed and mobile IDD services for residential and business customers (i.e. Markets 2a-d). OTT-based services were excluded from those Candidate Markets.

The Authority also notes Ooredoo's explanation on recent price trends, which it considers at odds with Ooredoo's claim of strong competition in these Markets.

Based on this, the Authority retains its position set out in the consultation document and designates Ooredoo as a DSP in the Markets for retail international outgoing call services at a fixed location (M2a and M2b). The Authority considers this is consistent with its analysis and

[11] Whilst the Authority does not hold information on the fixed outbound IDD traffic volumes and associated revenues for Vodafone's residential or business customers separately, Vodafone's prevailing low total fixed IDD traffic and revenue across both segments indicates that Ooredoo remains in control of the vast majority of the market.

with the data available to it on market shares, which indicate that Ooredoo maintains a market share of close to 100% in these markets.

3.3 Markets for retail international outgoing call services from a mobile device (M2c and M2d)

Markets M2c and M2d were assessed in full as part of Phase I of this MDDD process, with the Authority concluding that both Markets are not susceptible to ex-ante regulation. As such, they were not further considered in Phase II.

3.4 Market for retail national leased line services (M3)

3.4.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that the Market for retail national leased line services (M3) remains susceptible to ex-ante regulation. In particular:

- The Market is characterised by high and non-transitory barriers to entry.
- While Vodafone began supplying this Market in 2014, the Market is highly concentrated and the degree of competition is weak.
- Competition law may not be sufficient in this Market due to Vodafone's dependency on access to Ooredoo's fixed network infrastructure to provide national leased line services.

Furthermore, the Authority considered that the presence of relevant wholesale remedies do not at this stage change its conclusion that the retail Market is not susceptible to competition.

Given this, the Authority assessed competition in this Market. Following this assessment, it came to the preliminary view that Ooredoo has a dominant position in this Market. This was because:

- The Market remains highly concentrated in the hands of Ooredoo
- Ooredoo has control of the key infrastructure used to deliver retail national leased line services in Qatar, as Vodafone's fiber network and QNBN's passive infrastructure only have limited coverage in Qatar.
- There are high and non-transitory barriers to entry for providers of national leased line services in Qatar.
- While one or two businesses are likely to be large, they can only be assumed to exercise countervailing buyer power if their actions (in switching suppliers, or sponsoring entry) are likely to competitively constrain prices in the Market. This is unlikely to be the case, given the lack of alternative options for these customers.

3.4.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority's preliminary views and its application of the TCT, because it argues the TCT has not been applied iteratively. As set out in in its general comments (see section 2.2.1 above) It believes the Authority should have considered the impact of wholesale remedies before concluding that the retail Market was susceptible to regulation, as it considers the application of wholesale remedies are sufficient for ensuring competition in this Market. Consequently, it believes that, given wholesale remedies, Ooredoo is not dominant in this Market as alternative retail providers face no barriers to expansion.

Vodafone agrees with the Authority's preliminary views on the TCT and dominance assessment in this Market. It agrees that Ooredoo remains in control of the key infrastructure for delivering national leased lines. Vodafone uses QNBN's passive infrastructure to provide its services and QNBN has made little progress in rolling out fixed infrastructure, partly as a result of constraints on duct access offered by Ooredoo. While Ooredoo's reference offer for duct access is a way forward, Vodafone is concerned about the time and effort required to implement duct access and for it to then roll out its own fiber. Vodafone, therefore, believes that other, active wholesale access products such as bitstream and wholesale leased lines need to be made available to support retail competition (but does not agree that the mere presence of wholesale remedies would mean that the retail market could be deregulated).

QNBN has not commented on the Authority's preliminary conclusions in this Market.

3.4.3 The Authority's Comments and Conclusion

The Authority retains its position that this Market is susceptible to ex-ante regulation. As set out in section 6.3 of the consultation document, the Authority considers wholesale remedies alone are currently insufficient to ensure competition in this Market and hence, considers ex-ante retail regulation remains necessary, both to protect consumers and alternative service providers from Ooredoo potentially engaging in anti-competitive behaviour. This is particularly the case, given Ooredoo's prevailing high market share (i.e., close to 100%) in this Market. The Authority has not defined a separate market for retail dark fiber products given the relatively small number of services sold in this product area compared to the broader retail national leased line market. Retail dark fiber is therefore considered a part of this Market and will be reviewed in the next MDDD process.

Based on this, the Authority retains the position set out in the consultation document and designates Ooredoo as a DSP in the Market for retail national leased line services (M3).

3.5 Market for retail international leased line services (M4)

3.5.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that the Market for retail international leased line services (M4) remains susceptible to ex-ante regulation. In particular:

- The Market remains characterised by high and non-transitory barriers to entry and high market concentration.
- Whilst entry has occurred since the last MDDD in 2010/11, the degree of competition remains weak.
- Competition law is unlikely to be sufficient in this Market due to the dependency of alternative service providers on access to Ooredoo's fixed network infrastructure to provide these services.

Furthermore, the Authority considered that the presence of relevant wholesale remedies do not at this stage change its conclusion that the retail Market is not susceptible to competition.

Given this, the Authority assessed the level of competition in this Market. From this, it came to the preliminary view that Ooredoo has a dominant position in this Market. This was based on the following observations.

- Ooredoo has retained a high market share of total retail international leased lines and associated revenues.

- Ooredoo remains in control of the key infrastructure used to deliver retail international leased line services in Qatar (i.e., as it operates the only national fixed access network in Qatar).
- The Authority considers there are high and non-transitory barriers to entry for potential providers of international leased line services in Qatar, in terms of the high (sunk) costs of deploying a national fixed network infrastructure and prevailing licensing arrangements in Qatar.
- Countervailing buyer power can only truly be exercised when buyers have alternative sources of supply (including self-supply) for the relevant service. In this case, it is not clear that purchasers of international leased lines do have such sources.

3.5.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority's preliminary findings for this Market, owing to the following reasons:

- Evidence of price reductions on international leased line services and competition from (unlicensed) international players and Vodafone, which has a large network of PoPs outside Qatar.
- The incorrect application of the TCT, as it does not consider the impact of wholesale remedies on the prospects for competition in the retail Market.

Based on the above, Ooredoo disagrees with the Authority's conclusion that Ooredoo is a DSP in this Market. Rather, it argues that the wholesale remedies in place in the related upstream markets mean there are no barriers to other service provides expanding in this Market.

Vodafone agrees with the Authority's preliminary views on the TCT and dominance assessment in this Market.

QNBN has not commented on the Authority's preliminary conclusions in this Market.

3.5.3 The Authority's Comments and Conclusion

The Authority retains its position as set out in the consultation. This is because Ooredoo has failed to provide sufficient evidence to rebut the position set out in section 6.4 of the consultation document. In particular:

- As discussed in section 6.4.1.1 of the consultation document, the Authority recognises that there are international operators with a POP in Qatar which may enable them to offer retail international leased lines terminating in Qatar (based on buying the wholesale terminating segment from Ooredoo at an agreed set of terms and conditions). However, as these international providers are not licensed in Qatar, they are not able to offer their services to Qatari customers (i.e., a customer based in Qatar cannot purchase these services from the international providers). Even when serving customers outside of Qatar, these providers have no control over the customer relationship or the last mile to the Qatari customer (which is owned and operated by SPs). As such, the Authority remains of the view that service providers based outside of Qatar do not provide a competitive constraint for Qatari based customers.
- Vodafone has only captured a small share of the total volume of retail international leased lines sold and the associated revenues (as shown in Figure 12 of the consultation document).
- Whilst Ooredoo has provided evidence on price trends for its international VPN and IPLC services, which indicate a downward trend in several international leased line prices in 2014/15. It remains unclear whether the observed price trends are linked to

Vodafone (having entered this Market in 2014) imposing a competitive constraint on Ooredoo, or are linked to general cost reductions. The Authority notes that following a fall in marginal costs, even a monopoly supplier would reduce prices.

- As discussed in section 6.4.1.3 of the consultation document (and contrary to Ooredoo's claim above), the Authority has also considered whether this Market would remain susceptible to ex-ante regulation in the presence of relevant wholesale remedies. But the Authority found no evidence that the presence of current wholesale ex-ante remedies is sufficient to enable entrants, in the short-medium term, to supply services in this Market and achieve a sufficient scale to competitively constrain existing market players (see also the discussion in section 2.2.1 on the application of the TCT). As discussed in section 6.4.2 of the consultation document, the Authority notes that Vodafone provides retail international leased line services. However, it currently relies on its own limited fiber deployments and QNBN's passive infrastructure network to deliver these services in Qatar.

The Authority further notes that Ooredoo has a market share in excess if of 90% in this Market.

Given the above, the Authority designates Ooredoo as DSP in the market for retail international leased line services (M4).

3.6 Market for retail national mobile voice and broadband services (M5)

3.6.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that neither Market M5a nor M5b should be susceptible to ex-ante regulation, as both Markets fail the TCT.

- In Phase I, the Authority concluded that Market M5a showed a tendency to competition due to the presence of a second operator (Vodafone) with competing end-to-end infrastructure. Further there was no compelling evidence to show barriers to expansion. As part of Phase II, the Authority reviewed the evidence for this finding, taking into account any market developments since the end of Phase I. However, no new evidence came to light to so far alter this view. In addition, the Authority continues to be of the view that competition policy will be sufficient to deal with any concerns in this Market.
- In Phase I, the Authority reached a preliminary view that Market M5b was also tending to competition, as the presence of a second operator (Vodafone) with competing end-to-end infrastructure, suggested that barriers in this Market are not insurmountable. Similar to the Authority's views on the residential market therefore (expressed above), the Authority considered that these competing infrastructures will allow for competition in this Market.

  The Authority also considered whether the increasing importance of converged services to business customers and the resulting demand for wholesale fixed access products would affect its conclusions for Market M5b. However, information provided to the Authority during Phase II did not support the previous suggestion that the potentially more limited ability of Vodafone to offer converged services may cause business customers to switch from Vodafone's mobile service to Ooredoo's. Evidence from both SPs suggests that customers are concerned with price, quality (network quality and coverage) and customer service.

3.6.2 Service Provider's Responses to the CD

Ooredoo agrees with the Authority's preliminary findings that ex-ante regulation is not required in this Market.

Vodafone disagrees with the Authority's preliminary findings in this Market. It believes that Ooredoo's high market share indicates dominance and that the removal of ex-ante retail regulation has led to "re-monopolisation" of mobile markets. It further notes a decline in its financial performance in recent quarters.

QNBN has not commented on the Authority's preliminary conclusions in this Market.

3.6.3 The Authority's Comments and Conclusion

The Authority notes that most of the assessment of Markets M5a and M5b was undertaken as part of Phase I, where the Authority concluded that both Markets showed a tendency to competition.

As such as part of Phase II, the Authority has mainly reviewed the evidence on the latest market developments since the end of Phase I. However, no new evidence has been presented to alter the position from Phase I. The Authority further maintains the view that competition policy will be sufficient to deal with any concerns in these Markets. Therefore, the Authority remains of the view that these markets do not meet the criteria of the TCT and therefore will not be considered further in this review.

The Authority notes that Vodafone is currently appealing the Authority's preliminary findings in these Markets in the Administrative Courts.

As such, the Authority determines that the Markets for retail national mobile voice and broadband services (M5a and M5b) are not susceptible to ex-ante regulation. The Authority will continue to monitor these markets to understand on-going developments.

4 Assessment of wholesale service related Candidate Markets

4.1 Wholesale call origination on public telecommunications networks at a fixed location (M6)

4.1.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M6 remained susceptible to ex-ante regulation. In particular:

- The Market remains characterised by high and non-transitory barriers to entry.
- The Market is highly concentrated and there is no competitive pressure on prices.
- Competition law may not be sufficient in this Market to resolve any competition concerns, as the fixed infrastructure does not face a strong direct competitor, and the degree of market concentration creates a risk of excessive pricing.

Given this, the Authority assessed competition in this Market this Market and came to the preliminary view that Ooredoo has a dominant position in this Market. This was because:

- Ooredoo has retained a market share of close to 100%.
- Ooredoo owns and controls access to the only nationwide physical network infrastructure that is capable of providing wholesale call origination on public telecommunications networks at a fixed location.
- There are high and non-transitory barriers to entry for providers of services in this Market, which constrain any tendency towards competition.
- Buyers in this Market do not have sufficient countervailing buyer power to curtail the exercise of market power by the sole operator.

4.1.2 Service Provider's Responses to the CD

Ooredoo and **Vodafone** agree with the Authority's preliminary findings for Market 6.

QNBN did not comment on this consultation question.

4.1.3 The Authority's Comments and Conclusion

Given the general support from SPs for its preliminary assessment of the Market for wholesale call origination on public telecommunications networks at a fixed location (Market 6), the Authority designates Ooredoo as a DSP in this Market. This reflects Ooredoo having maintained a market share in this Market of close to 100%.

4.2 Wholesale termination on individual telecommunications networks at a fixed location (M7)

4.2.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M7 remains susceptible to ex-ante regulation. In particular:

- The Market is characterised by high and non-transitory barriers to entry.
- Each service provider has a monopoly in the provision of termination services on its network and there is no competitive pressure on prices.

- Competition law may not be sufficient to remedy any competition concerns in this Market as each service provider does not face a direct competitor for termination on their network.

Given the scope of this Market (i.e., termination on individual fixed networks), it is common for each operator to be found to be dominant in the market for call termination on its own network.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Vodafone and Ooredoo each has a dominant position in the market for wholesale call termination on their respective fixed networks.

- Each SP has a market share of 100% in the provision of call termination services to their own customers.
- Call termination is a bottleneck service on each service provider's network.
- Given the scope of this Market, the concept of barriers to entry does not apply (i.e. as further entry is technically not possible). However, the Authority notes that there are barriers to expansion for other service providers to enter into the relevant call termination market on the other service provider's network.
- Buyers do not have sufficient countervailing buyer power to curtail the exercise of market power by a dominant service provider.

4.2.2 Service Provider's Responses to the CD

Ooredoo broadly agrees with the Authority's preliminary findings in Market 7, but also considers a need for a more detailed assessment of the impact of OTT services on this Market.

Vodafone agrees with the Authority's preliminary findings.

QNBN did not comment on this consultation question.

4.2.3 The Authority's Comments and Conclusion

Given the general support from service providers for its preliminary assessment of the market for wholesale termination on individual telecommunications networks at a fixed location (Market 7), the Authority designates Ooredoo and Vodafone as dominant service providers in the Market for wholesale call termination on their respective networks. This reflects the monopoly status of each service provider.

Concerning Ooredoo's reference to the need to consider OTT services, the Authority reminds Ooredoo that, as determined as part of Phase I of this MDDD process, OTT services do not form part of this Market and have therefore not been considered further as part of the dominance assessment in Phase II.

4.3 Physical access to SPs' mobile sites, masts, towers, including relevant ancillary services and colocation space (M8a)

4.3.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M8a should not be susceptible to ex-ante regulation. This is due to the following.

- The Market is not characterised by significant barriers to entry, although barriers to expansion do exist in the market.[12]
- In absence of any further entry into the mobile market, there is a tendency to competition since each SP has access to considerable mobile infrastructure.
- In absence of any further market entry, competition law would be sufficient to deal with any anti-competitive behaviour which did arise in this Market.

Due to this, the Authority did not consider this Market further in the MDDD.

4.3.2 Service Provider's Responses to the CD

Ooredoo and **Vodafone** agree with the Authority's preliminary findings for Market 8a.

QNBN did not comment on this consultation question.

4.3.3 The Authority's Comments and Conclusion

Given the general support from service providers for its preliminary assessment of this Market, the Authority determines the Market for physical access to SPs' mobile sites, masts, towers, including relevant ancillary services and colocation space (Market 8a), is currently not susceptible to ex-ante regulation.

4.4 Physical access to dark fiber (M8b)

4.4.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that the Market M8b remains susceptible to ex-ante regulation. This is due to the following.

- There are high barriers to entry and expansion in this Market.
- Whilst QNBN is the largest current supplier of dark fiber to third parties (as Ooredoo currently does not offer dark fiber to other service providers), Ooredoo is likely to have the largest network of available capacity of dark fiber (and the only network with national coverage), as well as being the largest supplier of dark fiber when taking into account of self-supply. Both these factors indicate that Ooredoo would be able to exploit market power, and that there is not a tendency to competition. Furthermore, Ooredoo does not currently have an incentive to offer dark fiber to other service providers if this could cannibalise revenues from its existing retail or wholesale services.
- Competition law is not sufficient to remedy any competition concerns which arise in this Market.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo is dominant in the supply of dark fiber (M8b). This was based on the following considerations.

- Ooredoo has a high share of the total available dark fiber capacity in Qatar, and a high share of total supply (including self-supply). But, Ooredoo may not be incentivised to offer dark fiber where this would compete with its other retail and wholesale services.

[12] There are no significant barriers to entry in general, but the consultation notes that there may be certain geographic areas where there could be significant barriers. Prospectively over the coming three to four years, the proportion of areas where there may be barriers to entry could increase. However, in recognition of this, mobile site sharing and co-location, where technically and economically feasible, is obligatory in Qatar

- There are significant and high barriers to entry and expansion in this Market.
- Vodafone is unlikely to be able to exercise countervailing buyer power in the market for dark fiber.

4.4.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority on its preliminary designation and dominance assessment in this Market. Instead, given the limited evidence provided by the Authority, Ooredoo considers that this Market should not be designated as susceptible to ex-ante regulation. Further, in case of any designation in this Market, Ooredoo argues that QNBN would be the dominant service provider in this Market (rather than Ooredoo) because, due to the technical specifications of its (GPON) network, Ooredoo argues it is not able to provide dark fiber.

Vodafone broadly agrees with the Authority's preliminary findings. It insists that while QNBN is regarded as a key supplier of dark fiber to third parties, its geographic coverage is limited compared to Ooredoo. As a result, QNBN's limited coverage and unregulated prices make its fiber costly, financially unattractive and at times unviable for Vodafone. Vodafone also asserts that it has limited countervailing buyer power in this Market and urges the Authority to put in place appropriate remedies which require Ooredoo to provide wholesale access to dark fiber.

QNBN agrees with the Authority's preliminary designation and dominance assessment in this Market. However, it urges the Authority to refrain from ex-ante regulation in the market, as QNBN should be given necessary time to develop its service before the Ooredoo is required by regulation to offer such a product. QNBN is concerned that Ooredoo's entry into this Market could "*economically crush"* QNBN, given Ooredoo's substantial market power and "*propensity to engage in anti-competitive conduct*".[13] It could also potentially disincentivise QNBN's investment in the market. Additionally, QNBN considers that not requiring Ooredoo to offer dark fiber access would be consistent with international best practice. Instead, it argues that focusing on establishing a functional duct access regime would be more effective and in line with international best practice.

4.4.3 The Authority's Comments and Conclusion

The Authority notes the SPs comments on its preliminary findings.

Whilst the Authority does not have detailed information on Ooredoo's dark fiber capacity, it does not consider this limits its ability to assess the competitive dynamics in this Market. In particular:

- The Authority considers it relevant to consider in its competition assessment the available dark fiber capacity (i.e. the volume of unlit fiber) and self-supply of dark fiber (i.e. the total quantum of dark fiber in the supplier's networks), as this reflects the ability of providers to supply third parties.
- The Authority does not hold information on the total dark fiber capacity in Ooredoo's network and notes that Ooredoo failed to provide this information prior to the consultation or as part of its consultation response. However, given the relative geographic scope of Ooredoo's and QNBN's network infrastructure and in absence of

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any information on capacity constraints in Ooredoo's fiber network, the Authority considers it reasonable to conclude that Ooredoo has a high share of available dark fiber capacity and total supply (including self-supply).

- Furthermore, irrespective of any technically feasibility, Ooredoo does not currently have an incentive to offer dark fiber if it is likely to cannibalise revenues from its existing retail or wholesale services.

Given the above, prevailing high barriers to entry and expansion and no evidence of countervailing buying power, the Authority remains of the view that Ooredoo is dominant in this Market.

However, the Authority is of the view that the current focus on implementing duct access (as set out in the current Reference Infrastructure Access Offer) and active wholesale broadband access products, such as VULA/bitstream and wholesale leased line services (as covered by the upcoming reference offers developed by the Authority and Ooredoo) is, for now, sufficient to facilitate competition in the relevant downstream markets and provides already a significant work load for the industry to ensure that these products become fit for purpose. As such, the Authority will not, at this point in time, ask Ooredoo to prepare a reference offer for dark fiber. This may also incentivise further investment by other SP into their fixed network infrastructure.

However, if the above set of wholesale remedies are not implemented effectively by Ooredoo and within one year of the date of issue of the Notice and Orders the Authority will review its position.

Further, for the avoidance of doubt, the regulatory obligations which apply automatically to dominant service providers (see table 11 of the consultation document) and the RAS requirements also apply to Ooredoo in this Market.

4.5 Physical access to SPs' ducts (M8c)

4.5.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that the Markets M8c remains susceptible to ex-ante regulation. In particular:

- There are high barriers to entry and expansion in this Market.
- Ooredoo is likely to have the largest network of available capacity of duct (and the only network with national coverage), as well as the largest self-supply of duct in its own network (which should far exceed the limited amount of duct currently supplied by QNBN and developers to third parties in Qatar).
- The Authority does not believe that competition law will be sufficient to resolve any competition concerns which arise in these markets.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo has a dominant position. This was based on the following considerations.

- Ooredoo has a high share of total supply (including self-supply);
- There are very high barriers to entry and expansion; and
- QNBN is unlikely to be able to exercise countervailing buyer power.

4.5.2 Service Provider's Responses to the CD

Ooredoo broadly agrees with the need for ex-ante regulation and the Authority's dominance findings in Market 8c. However, it is concerned about the overall regulatory burden arising from any duct access remedies, especially given the remedies proposed in the wholesale broadband access market (Market 9).

Ooredoo states it will continue to provide access to its duct for network deployment where feasible and considers that the terms should continue to be governed by the existing reference offers.

Vodafone agrees with the Authority's preliminary findings in Market 8c and considers Ooredoo's reference offer to be an acceptance of its dominance.

QNBN also agrees with the Authority's preliminary findings and urges the Authority to set the terms of duct access.

4.5.3 The Authority's Comments and Conclusion

Given the general support from SPs for its preliminary assessment of the Market for physical access to SPs' ducts (Market 8c), the Authority designates Ooredoo as a DSP in this Market.

4.6 Functional access to international gateway facilities required to gain international connectivity (M8d)

4.6.1 The Authority's view as expressed in the CD

The Authority preliminary concluded that the Market M8d is susceptible to ex-ante regulation. In particular:

- This Market is characterised by high barriers to entry, but there are no barriers to expansion (as the market is currently based on self-supply).
- Ooredoo currently holds the overwhelming share of international capacity.
- In the absence of further market entry, competition law would be sufficient to intervene in this Market should any anti-competitive behaviour arise.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo has a dominant position. This was because:

- Ooredoo currently controls the vast majority of access to international capacity originating in Qatar. Indeed, Vodafone (via Gulf Bridge International GBI) relies on access to Ooredoo's Cable Landing Station (CLS) for the regional connectivity provided by the GBI subsea cable system, which provides it with regional access and redundancy.
- Ooredoo owns and controls access to the key physical network infrastructure required to access international capacity. Whilst Vodafone also owns an international gateway facilities in Qatar, we are conscious that this facility is part of a technical solution, which works in tandem with Ooredoo's GBI landing station.
- There are high and non-transitory barriers to entry for providers of international gateway facilities and international connectivity, which constrain the likelihood of the market becoming competitive.

4.6.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority on its preliminary conclusion of the TCT for Market 8d. Contrary to the Authority's statement, it believes that Vodafone does not depend on access to

Ooredoo's CLS. Ooredoo further noted certain inconsistencies in the wording of the consultation document.

Vodafone agrees with the Authority's preliminary findings in this Market. It asserts that although currently the demand is met sufficiently with self-supply, there is a need prospectively for greater resilience on international gateway connectivity, which "might" require Vodafone to have regulated access to Ooredoo's landing stations in the future.

QNBN did not comment on this consultation question.

4.6.3 The Authority's Comments and Conclusion

The Authority notes the SPs comments on its preliminary findings and the reference to inconsistencies in certain parts of Section 7.6.2 of the consultation document. Whilst these two sentences were not correct and thus may have resulted in some confusion, the Authority considers that this section still sets out clearly the Authority's preliminary findings for this Market (as summarised in section 4.6.1 above).

As noted in the consultation document, there is currently no demand for access to international gateway facilities beyond self-supply. However, the Authority notes that the Vodafone Landing Station is adjacent to an Ooredoo Landing Station. Both these landing stations have GBI provided connections. GBI lands different loops at each Landing Station; regional connectivity and global connectivity with resilience between the loops provided via a cross connect between the two landing stations. Therefore Vodafone has a reliance on the Ooredoo/GBI Landing station.

The Authority remains of the view that this Market remains susceptible to ex-ante regulation due to high barriers to entry and a lack of evidence to suggest it is tending to competition. For example, as set out in the consultation document, Ooredoo currently holds the overwhelming share of the available international capacity in Qatar. Furthermore, the high and non-transitory barriers to entry for providers of international gateway facilities and international connectivity constrain the likelihood of the market becoming competitive.

Furthermore, based on the evidence set out in the consultation document and reiterated in section 4.6.1 above, Ooredoo has a dominant position in the market for access to international gateway facilities. As such, the Authority considers that it is important that it has the ability to impose ex-ante access obligations on Ooredoo, if required. Therefore, whilst the Authority will retain from imposing such an obligation immediately, it will do so in the event that access is not granted on reasonable terms following any requests, and if competition in the market does not develop, with this having consequent impacts on downstream markets.

4.7 Wholesale broadband access at a fixed location (M9)

4.7.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M9 remains susceptible to ex-ante regulation. In particular:

- The Market is characterised by high and non-transitory barriers to entry.
- The Market is highly concentrated and there is no competitive pressure on prices.
- Competition law may not be sufficient in this Market to remedy any anti-competitive behaviour, given the potentially complex and enduring nature of any potential anti-competitive behaviour.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo has a dominant position in this Market. This was because:

- Ooredoo is the only provider, with 100% of the Market.
- Ooredoo owns and controls access to the only key physical network infrastructure used to provide wholesale broadband access at a fixed location.
- There are high and non-transitory barriers to entering the market.
- Vodafone is the only purchaser of the wholesale broadband services at a fixed location.

4.7.2 Service Provider's Responses to the CD

Ooredoo broadly agrees with the Authority's preliminary finding that this Market is a Relevant Market, but also considers QNBN to be dominant in certain geographic locations (i.e. in areas where it has network coverage). It, therefore, considers there to be a need for defining sub-national geographic markets, citing examples in the UK and the UAE. It also draws the Authority's attention to Vodafone's failure to comply with its license obligations to invest/roll out.

Vodafone agrees with the preliminary findings in this Market.

QNBN did not comment on this consultation question.

4.7.3 The Authority's Comments and Conclusion

The Authority notes Ooredoo's comments on its preliminary findings. However, the market definition exercise for this MDDD process was concluded as part of Phase I. As part of that exercise, the Authority considered, amongst others, the merits of defining sub-national geographic markets for all Candidate Markets, before concluding that national geographic markets remain adequate in the context of this MDDD process.

As set out in section 2.2.3 above, The Authority also does not consider that Ooredoo's reference to Vodafone's alleged failure to meet the coverage obligations within its license is relevant to the MDDD process.

Given this, the Authority designates Ooredoo as DSP in the market for wholesale broadband access at a fixed location**.**

4.8 National trunk segment of (national and international) wholesale leased lines services (M10)

4.8.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M10 remains susceptible to ex-ante regulation. In particular:

- Ooredoo is currently the only nationwide provider in this Market.
- Competition law is not sufficient to investigate and remedy anti-competitive behaviour in this Market.

Whilst the Market exhibits relatively lower barriers to entry than other wholesale markets and infrastructure-based competition may be emerging, the Authority considers it is too early to remove ex-ante regulation in this Market.[14]

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo has a dominant position in this Market. This is because:

- Ooredoo is currently the only provider able to offer retail leased lines nationwide.
- There are lower barriers to entry in this Market than in most other wholesale markets. However, in the timeframe of this analysis, the Authority does not foresee that alternative SPs would be able to build a core network sufficient to offer retail leased lines nationwide.[15]
- There is no countervailing buyer power present in this Market.

However, the Authority proposed to review this position once an alternative core network sufficient in scale to support the nationwide provision of the trunk segment of retail leased lines has been deployed and competition is emerging.

4.8.2 Service Provider's Responses to the CD

Ooredoo disagrees with the Authority's preliminary findings that this Market is susceptible to ex-ante regulation, since it believes the Market does not exhibit high and non-transitory barriers to entry. According to Ooredoo this is especially the case as Vodafone has already deployed core network infrastructure for its mobile operations, which in turn reduces the additional investment Vodafone would need to make in order to deploy a national fixed core network suitable to deliver retail leased lines. Ooredoo also provides an estimate of the lower marginal costs to substantiate its argument. In Ooredoo's view, failure of Vodafone to deploy such a network should not be considered evidence of high barriers to entry.

Vodafone agrees with the Authority's preliminary findings and considers the lack of competition in this Market to be crucial for its entry in fixed retail markets.

QNBN did not comment on this consultation question.

4.8.3 The Authority's Comments and Conclusion

As set out in section 7.8.1.1 of the consultation document, the Authority considers there are lower barriers to entry in this Market, compared to entry in the Markets for Civil Infrastructure (i.e. M8a-d) or Wholesale Broadband Access services (M9). This is because core network infrastructure is more replicable than a fixed access network, especially if there is regulation in related upstream markets which ensure access to ducts or dark fiber. However, the Authority further stated that, in the time period considered for this MDDD process, it did not foresee that alternative SPs would be able to build a core network sufficient to offer trunk segments of Leased Lines nationwide. This is particular the case when taking into account the need to secure the required permissions and permits. As such, the Authority remains of the view that it is too early to remove ex-ante regulation in this Market.

[14] The Authority considers the NGN core network infrastructure to be more replicable, especially given the geography in Qatar. It further observes that Vodafone has deployed such core network across the country. However, as set out above, this network is unlikely to be sufficient to deliver nationwide the trunk segments of retail leased lines.

[15] Whilst Vodafone is in the process of extending its own core network infrastructure, it remains unclear when this may be operational.

Given this, the Authority designates Ooredoo as dominant service provider in the Market for the national trunk segment of (national and international) wholesale leased lines services**.**

4.9 Terminating segment of wholesale leased lines services (M11)

4.9.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M11 remains susceptible to ex-ante regulation. In particular:

- The Market exhibits high and non-transitory barriers to entry.
- Ooredoo remains the sole provider and there is no competitive pressure on prices.
- Competition law may not be sufficient in this Market to remedy any competitive concerns, due to the importance of the infrastructure for downstream competition.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo has a dominant position in this Market. This was because:

- Ooredoo is the sole provider in this Market, thus having a 100% share.
- Ooredoo owns and controls the only nationwide fixed access network infrastructure used to provide the terminating leg of wholesale leased lines services.
- There are high and non-transitory barriers to entry in this Market.
- There is no countervailing buyer power in the market.

4.9.2 Service Provider's Responses to the CD

Ooredoo broadly agrees with the Authority's preliminary findings in this Market, but considers that a duct access remedy should be sufficient to address any prevailing concerns in this Market. It further considers the international part of this Market to already be competitive and thus not to require any ex-ante regulation.

Vodafone agrees with the preliminary findings in this Market.

QNBN did not comment on this consultation question.

4.9.3 The Authority's Comments and Conclusion

As discussed in section 3.5 above in the context of the relevant retail market (i.e. Market 4), the Authority does not concur with Ooredoo's assessment of the competitive dynamics of the international leased line market and instead considers this Market to remain susceptible to ex-ante regulation, with Ooredoo as a DSP in this Market. Given this, the Authority remains of the view that the entire Market 11 (i.e. including terminating segments of national and international leased lines in Qatar) remains susceptible to ex-ante regulation, with Ooredoo being dominant in this Market.

Given the general support from service providers for its preliminary assessment of the market for the terminating segment of wholesale leased lines services (Market 11), the Authority designates Ooredoo as a DSP in this Market and does not repeat here its analysis from the consultation.

The Authority notes Ooredoo's comment on remedies in this Market. These are discussed further within section 5 below.

4.10 International transit segment of international wholesale leased lines services (M12)

4.10.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M12 is not susceptible to ex-ante regulation. This is due to the following considerations.

- Despite prevailing high barriers to entry, there appear to be several providers in this Market. Whilst the Authority does not hold market share information for this Market, the presence of these multiple providers is likely to result in the Market tending towards competition.
- Furthermore, none of the SPs rely on others to supply their product.

Given this, the Authority did not consider Market M12 to constitute a Relevant Market.

4.10.2 Service Provider's Responses to the CD

Ooredoo and **Vodafone** agreed with the Authority's preliminary findings in this Market.

QNBN did not comment on this consultation question.

4.10.3 The Authority's Comments and Conclusion

The existence of multiple cable systems in the Gulf with further cables systems being planned, leads the Authority to believe that this market per se is not causing competitive concerns. The bottleneck associated with International Connectivity starts at the Landing Stations for these cables. Given the general support from SPs of its preliminary assessment of this Market, the Authority designates the market for the international transit segment of international wholesale leased lines services (Market 12), not to be susceptible to ex-ante regulation. Should anti-competitive concerns in this area arise, the ex-post competition framework will be used to address such issues.

4.11 Wholesale access and origination on public mobile networks (M13)

4.11.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M13 is not susceptible to ex-ante regulation. This is due is due to the following considerations.

- Despite high barriers to entry, there is a tendency to competition in this Market, which is illustrated by Vodafone's successful entry and expansion in the Qatari mobile market.
- The Authority considers that ex-post competition law is likely to be sufficient in this Market (given the current market structure) to resolve any competition concerns. In particular, there is already a degree of competition in the Market, and neither SP relies to a significant degree on the infrastructure of the other.

Therefore, given there is a degree of competition, there are no significant barriers to expansion, and (based on the current market structure) access remedies (which could require detailed price controls) are unnecessary.

Given this, the Authority concluded that Market M13 is not a Relevant Market and so has not considered this Market further.

4.11.2 Service Provider's Responses to the CD

Ooredoo and **Vodafone** agreed with the Authority's preliminary findings in this Market. However, Vodafone urges the Authority to regulate both indoor and outdoor site sharing between Service Providers, as both Service Providers face significant challenges in acquiring building permits for mobile sites.

QNBN did not comment on this consultation question.

4.11.3 The Authority's Comments and Conclusion

Given the general support from service providers for its preliminary assessment of this Market, the Authority designates the market for wholesale access and origination on public mobile networks (Market 13), as not susceptible to ex-ante regulation.

Concerning Vodafone's request for mobile site sharing regulation, the Authority reminds that a site sharing is mandated as such in the regulatory framework and an agreement is already in place.[16]

4.12 Wholesale termination on individual mobile networks (M14)

4.12.1 The Authority's view as expressed in the CD

The Authority preliminarily concluded that Market M14 remains susceptible to ex-ante regulation. In particular:

- The Market remains characterised by high and non-transitory barriers to entry.
- Each service provider has a monopoly in the provision of termination services on their respective mobile networks.
- Competition law may not be sufficient to remedy concerns in this Market as each network operator does not face a direct competitor for termination on their network.

As discussed in the context of fixed call termination (M7) above, given the scope of this Market (i.e., termination on individual mobile networks), it is common for each operator to be found to be dominant in the market for termination services on its own mobile network.

Given this, the Authority assessed competition in this Relevant Market and came to the preliminary view that Ooredoo is dominant in the market for wholesale call termination on their mobile network and that Vodafone is dominant in the market for wholesale call termination on their mobile network.

- Ooredoo and Vodafone have retained market shares of 100% on each of their individual mobile networks.
- Both operators have a mobile network infrastructure that is a bottleneck for the termination of calls to end consumers using this network. Each operator has full control over their own network infrastructure.
- Whilst the concept of barriers to entry does not apply, there are barriers to expansion for other SPs to enter into the relevant call termination market on the other service provider's network.

[16] See, CRA Mobile Site Sharing Instruction December , 2014

- Buyers in this Market do not have sufficient countervailing buyer power to curtail the exercise of market power by the sole operator.

4.12.2 Service Provider's Responses to the CD

Ooredoo and **Vodafone** agreed with the Authority's preliminary findings in this Market.

QNBN did not comment on this consultation question.

4.12.3 The Authority's Comments and Conclusion

Given the general support from SPs of its preliminary assessment of the market for wholesale termination on individual mobile networks (Market 14), the Authority designates Ooredoo and Vodafone as DSPs in the market for wholesale termination on their respective networks.

5 Ex-ante regulatory remedies

5.1 General comments on remedies

5.1.1 Service Provider's responses to the CD

Ooredoo considers it is disproportionate and not in line with international best practice to continue ex-ante regulation of retail and wholesale markets (as the latter would be sufficient to facilitate downstream competition in all but Markets 1a and 1b). It further considers it unnecessary to impose active and passive wholesale remedies. Ooredoo is also of the view that Vodafone should be made subject to a RAS requirement as well as Ooredoo. In support of this final proposal, it cites the case of Oman, where it argues that both Omantel and Ooredoo (formerly Nawras) are subject RAS requirements.

Vodafone believes that it is imperative that wholesale products such as wholesale leased lines, bitstream access, VULA products, dark fiber and duct access are offered on a non-discriminatory basis within the next 12 months, as these remedies are all complements rather than substitutes. It argues that this would increase downstream competition, by creating a level playing field that would allow Vodafone to replicate Ooredoo's retail offers. Vodafone considers that passive wholesale remedies are important as they incentivise investment when coupled with other remedies downstream, and enable entry without inefficient duplication of networks.

Furthermore, Vodafone states that retail regulation in mobile markets should be maintained given "*Ooredoo's dominance, past behaviour and repeated breaches*"[17], to ensure that Ooredoo's retail offers can be replicated. Tariffs should be notified, and policed to ensure they are not below cost and are not anticompetitive. It believes that particular attention should also be paid to discount offers in the business segment.

Vodafone notes that structural or functional separation of Ooredoo's wholesale and retail activities, which would reduce incentives by Ooredoo to discriminate, has not been considered by the Authority as a potential remedy. Vodafone maintains that this is crucial for competition in fixed broadband services, IPTV and services provided to business customers, as well as being important for competition in the mobile market and growth of mobile broadband.

Lastly, Vodafone further considers that Ooredoo's RAS should be made publicly available, in order increase transparency in the market. Vodafone argues that this will allow it to spot price discrimination and excess profits, and so will improve market outcomes. Vodafone states that this follows international best practice, as in the case of UK and Ireland.

QNBN believes that remedies have not been enforced effectively. The MDDD exercise should examine factors that exaggerate anti-competitive conduct and remedies should be "tangible, real, punitive and effective", and are examined not only from an ex-ante perspective but also from an ex-post vantage. QNBN also states that remedies should be backed by enforcement actions. It argues that the Authority has not utilised powers under article (70) of the Telecommunications Law, imposed fines or reported anti-competitive findings to the Public prosecutor. Finally, it states that enforcement actions such as reporting requirements, compliance with retail tariff or tariff approvals requirements are not transparent.

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[17] Vodafone's response of March 17, 2016 to Consultation, page 4 para 5.6

5.1.2 The Authority's comments and conclusion

The Authority notes Ooredoo's concern about excess regulation, in particular in retail markets (given wholesale remedies) and the number of wholesale access obligations that the Authority is imposing. Whilst the Authority is confident that its overall approach adheres to its general policy objectives of moving towards wholesale regulation, it is important to recognise also that Ooredoo retains a very strong position in all fixed retail markets. As such, there remains a need to impose ex-ante regulation on Ooredoo in both retail and wholesale fixed markets in order to facilitate effective competition for these services and to protect retail consumers from facing the possible detrimental effects of a lack of competition in retail markets. The Authority further wishes to remind Ooredoo that the Qatari regulatory framework contains a range of ex-ante remedies which apply automatically to all DSPs, including tariff submission and pre-approval requirements and the obligation on cost accounting and accounting separation (see, for example, Table 11 of the Phase II consultation document). This is also reflected in the ex-ante regulation out in Table 3 below.

The Authority considers there is a need for Ooredoo to supply, on regulated terms, both active and passive wholesale access products, as this will provide other service providers with a range of short and longer-term options for competing effectively in the relevant downstream markets. The Authority considers that requiring Ooredoo to offer both passive and active remedies is appropriate as it will allow service providers to select the most appropriate business model for the services they wish to offer and so allow these service providers to make "build or buy" decisions. This is also reflected in Vodafone's request for both active and passive wholesale remedies.

The Authority notes Vodafone's position that Ooredoo should face remedies in retail mobile markets. However, the need for ex-ante regulation is determined by the TCT and subsequent dominance assessment. With exception of termination markets, all retail and wholesale **mobile markets** have not passed the TCT (i.e. they are found not to be susceptible to ex-ante regulation). As such, it is not appropriate to impose any ex-ante regulatory remedies in these Markets.

The Authority acknowledges Vodafone's reference to **functional or structural separation** of Ooredoo. Whilst this constitutes a potential remedy (as considered by the Executive Bylaw), the Authority, at this point in time, does not consider that represents the most suitable route to facilitate effective competition in the Qatari communications sector. In particular, implementing functional/structural separation is very time and resource intensive and so could actually delay the introduction of fit for purpose wholesale products. For example, the Authority understands that the functional separation of BT and Openreach in the UK was achieved over many years, requiring significant investments by BT. Instead, the Authority will continue to focus on achieving open and fair access to Ooredoo's network on non-discriminatory conditions.

Concerning the need to impose **RAS requirements on Vodafone**, the Authority points out that it has in past received sufficient financial information from Vodafone to establish Vodafone's mobile termination rates. Similar to Ooredoo, Vodafone further has to submit the MDDD indicator data on quarterly basis. The Authority considers that these reporting requirements jointly address the main information needs from Vodafone in the context of its dominance findings. As such, both these requirements will continue to apply going forward. If the need arises the Authority may consider a RAS obligation on Vodafone.

The Authority also notes Vodafone's statements on the merits of **sharing or publishing Ooredoo's RAS.** This matter will be handled as part of the RAS Order, prepared separately.

5.2 Retail remedies

5.2.1 Service Provider's responses to the CD

In line with its concerns with the Authority's preliminary designation and dominance assessments of retail Markets (see section 3 above), Ooredoo considers ex-ante remedies are not required in Markets for retail fixed broadband (M1c), retail international calls at a fixed location (M2a and M2b), retail international leased lines (M4) and retail mobile services (M5a and M5b). As such, it considers it is appropriate to remove all remedies in those markets (including the RAS requirements). It further considers there is no need for remedies in the market for retail national leased line (M3), as the proposed remedies in the relevant wholesale market (M11) are sufficient to address any prevailing anti-competitive concerns.

In contrast, **Vodafone** considers that special attention should be paid to retail leased line services, which are characterised by bespoke discounts. It believes the Authority should have visibility of real tariffs in the market, either through implementing tariff notifications or through a pre-approved discount structure.

QNBN did not comment on specific retail remedies.

5.2.2 The Authority's comments and conclusion

As mentioned in section 5.1.2 above, the need for ex-ante regulation is determined by the TCT and subsequent dominance assessment. Given that, with exception of retail international call markets, all retail fixed markets have passed the TCT (i.e. they are found to be susceptible to ex-ante regulation) and Ooredoo has been found to be dominant in these Markets, the Authority sees a need to retain ex-ante regulatory remedies in these Markets. Ooredoo's market share in each of these retail fixed Markets remains in excess of 90% (despite existing retail and wholesale regulation), and as such, the Authority is concerned that without retail regulation, Ooredoo would have the ability and potential incentive to engage in anti-competitive behaviour, this harming consumers. The Authority therefore considers it is prudent to retain ex-ante regulation in each of these Markets until there is clear evidence on competition emerging in those markets.

The Authority notes Vodafone's comment on the need to consider bespoke discounting when approving Ooredoo's retail leased line tariffs. This will be considered as part of the implementation of the tariff approval obligation for these services.

5.3 Wholesale remedies

5.3.1 Service Provider's responses to the CD

Ooredoo asks for duct access requirements to be imposed on all three SPs. It notes that a bilateral duct access agreement with QNBN already exists, with discussions progressing on one with Vodafone. Additionally, Ooredoo has also been developing a RIAO.

If further reiterated that, in its view, there are no legal or economic grounds to impose dark fiber access requirements on itself. Instead, Ooredoo argues these should be imposed on QNBN only.

Lastly, given the overall burden on DSPs, Ooredoo stressed the importance of implementing new or amended remedies gradually (especially RAS requirements).

Vodafone states that there is a need for Ooredoo to offer regulated any-to-any wholesale leased line services. This is the case as the current Reference Transmission Offer (RTO) does not allow Vodafone to use Ooredoo's wholesale leased lines to connect its retail customers. Vodafone also sets out a series of requirements for Ooredoo's SLAs and SLGs[18]

QNBN did not comment on specific wholesale remedies.

5.3.2 The Authority's comments and conclusion

The MDDD process focusses on identifying prevailing competitive bottlenecks in the provision of telecommunication services and any remedies that are required to prevent any potential anti-competitive behaviour from dominant service providers in any relevant market. As Ooredoo is the DSP in Market 8c, regulated duct access will only relate to itself. In absence of any dominance findings, there will be no requirement on other service providers to offer duct access on regulated terms. Instead these entities can offer such services on commercial terms.

The Authority disagrees with Ooredoo's statement that there is no economic or legal basis for imposing dark fiber access as a remedy on Ooredoo. Ooredoo has been found to be a DSP in the Relevant Market, which means the Authority is then able to impose remedies on it in this Market. Whilst Ooredoo may face technical difficulties to implement dark fiber access in its GPON network currently, the Authority notes that dark fiber access has been imposed on such networks elsewhere[19], Ooredoo has also deployed a parallel point-to-point fiber network, which is technically feasible to unbundle.

However, as noted in section 4.4.3 above, the Authority will not, at this point in time, ask Ooredoo to prepare a reference offer for dark fiber. Instead it will continue its focus on implementing duct access, active wholesale access products (such as VULA/bitstream) and wholesale leased line services. However, if this set of wholesale remedies is not offered, on reasonable and non-discriminatory terms within a reasonable period of time, or do not facilitate downstream competition, the Authority will also request Ooredoo to provide dark fiber access.

The Authority notes Vodafone's concerns about the limitations contained in the current RTO with respect to leased line services. This will be addressed as part of the upcoming reference offer for wholesale leased line services.

[18] Refer to Vodafone's response of March 17, 2016 to Consultation, Part B, section 8

[19] A recent report prepared for Ofcom on the approaches to regulating fixed next generation access networks (NGA) indicates that dark fiber access has been imposed on GPON network operators in France and Singapore. See section 1.4 and 3.2.4 in: http://stakeholders.ofcom.org.uk/binaries/consultations/dcr_discussion/annexes/International_case_studies.pdf

6 Summary and conclusions

Having given due regard to the consultation responses received and further deliberations on the matters under consideration, the Authority has reached a final decision on the list of Candidate Markets considered in this MDDD update, any dominance designations in each Relevant Market and the required ex-ante regulation to be imposed on DSPs in each Relevant Market.

6.1 Designation and Dominance findings in retail and wholesale related Candidate Markets

The table below summarises the key findings from this assessment. It sets out for all Candidate Markets considered in this MDDD process, whether they are considered to be a Relevant Market (i.e., whether they are susceptible to ex-ante regulation) and if so, any dominance designation within these Markets.

Table 2. Designation and Dominance findings of retail and wholesale related Candidate Markets

Candidate Market	Relevant Market	Dominance Designation
Retail service markets		
M1 - Retail national fixed voice and broadband services		
• M1a - Retail fixed access services	Yes.	Ooredoo
• M1b - Retail national fixed call services	Yes.	Ooredoo
• M1c - Retail fixed broadband services	Yes.	Ooredoo
M2 - Retail international outgoing call services[20]		
• M2a - Retail international outgoing call services at a fixed location – Residential customers	Yes.	Ooredoo
• M2b - Retail international outgoing call services at a fixed location – Business customers	Yes.	Ooredoo
• M2c - Retail international outgoing call services from a mobile device – Residential customers	No.	(n/a)
• M2d - Retail international outgoing call services from a mobile device – Business customers	No.	(n/a)
M3 – Retail national leased lines services	Yes.	Ooredoo
M4 – Retail international leased lines services	Yes.	Ooredoo
M5 – Retail national mobile voice and broadband services		
• M5a – Retail national mobile voice and broadband services – Residential customers	No.	(n/a)
• M5b – Retail national mobile voice and broadband services – Business customers	No.	(n/a)
Wholesale service markets		
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Yes.	Ooredoo
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Yes.	Ooredoo, Vodafone
M8 - Wholesale physical access to network infrastructure		
• M8a - Physical access to SPs' mobile sites, masts, towers, including relevant ancillary facilities/services and colocation space	No.	(n/a)

[20] As part of Phase I of this MDDD update, the Authority already concluded that the markets for retail international outgoing call services via a mobile device for residential customers (M2c) and business customers (M2d) are not susceptible to ex-ante regulation.

Candidate Market	Relevant Market	Dominance Designation
• M8b - Physical access to SPs' dark fiber and copper, including relevant ancillary facilities/services and colocation space	Yes.	Ooredoo
• M8c - Physical access to SPs' ducts, including relevant ancillary facilities/services and colocation space	Yes.	Ooredoo
• M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	Yes.	Ooredoo
M9 - Wholesale broadband access at a fixed location	Yes.	Ooredoo
M10 - National trunk segment of (national and international) wholesale leased lines services	Yes.	Ooredoo
M11 - Terminating segment of (national and international) wholesale leased lines services	Yes.	Ooredoo
M12 - International transit segment of international wholesale leased lines services	No.	(n/a)
M13 - Wholesale access and origination on public mobile networks	No.	(n/a)
M14 - Wholesale termination on individual mobile networks	Yes.	Ooredoo, Vodafone

6.2 Ex-ante regulatory remedies

Table 3 below sets out the remedies imposed on dominant service providers in each of the Relevant Markets considered in this MDDD process.

Further, the Authority appreciates Ooredoo's and Vodafone's comments on the preliminary mapping of Ooredoo's 2014 RAS services to MDDD Candidate Markets. This mapping will be further discussed and finalised as part of the implementation process of the MDDD remedies (in particular, the RAS and MDDD indicator reporting requirements).

For the avoidance of doubt these are in addition to the obligations automatically applied to DSPs, and other regulatory obligations imposed on SPs unrelated to dominance (such as, the competition policy, mobile site sharing, open access requirements and regular reporting requirements to the Authority), and remedies imposed on DSPs which are not specific to a particular market. This includes a requirement for Ooredoo to prepare and submit a Regulatory Accounting System covering all services it is currently offering (independent of whether it is a DSP in the Relevant Market).

Table 3. Remedies in retail and wholesale related Markets

Candidate Market	Dominant Service Provider	Remedies
Retail service markets		**Note:** RTI obligations apply to DSPs and non-DSPs
M1 - Retail national fixed voice and broadband services		
• M1a - Retail fixed access services	Ooredoo	RTI
• M1b - Retail national fixed call services	Ooredoo	RTI
• M1c - Retail fixed broadband services	Ooredoo	RTI
M2 - Retail international outgoing call services		
• M2a - Retail international outgoing call services at a fixed location – Residential customers	Ooredoo	RTI
• M2b - Retail international outgoing call services at a fixed location – Business customers	Ooredoo	RTI
• M2c - Retail international outgoing call services from a mobile device – Residential customers	(n/a)	(n/a)
• M2d - Retail international outgoing call services from a mobile device – Business customers	(n/a)	(n/a)

Candidate Market	Dominant Service Provider	Remedies
M3 – Retail national leased lines services	Ooredoo	RTI
M4 – Retail international leased lines services	Ooredoo	RTI
M5 – Retail national mobile voice and broadband services • M5a – Retail national mobile voice and broadband services – Residential customers • M5b – Retail national mobile voice and broadband services – Business customers	 (n/a) (n/a)	 (n/a) (n/a)
Wholesale service markets		
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Ooredoo	Reference Offer and Tariff Regulation;
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Ooredoo, Vodafone	Reference Offer and Tariff Regulation; RAS (Ooredoo), Accounting Information on request (Vodafone)
M8 - Wholesale physical access to network infrastructure • M8a - Physical access to SPs' mobile sites, masts, towers, including relevant ancillary facilities/services and colocation space • M8b - Physical access to SPs' dark fiber and copper, including relevant ancillary facilities/services and colocation space • M8c - Physical access to SPs' ducts, including relevant ancillary facilities/services and colocation space • M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	 (n/a) Ooredoo Ooredoo Ooredoo	 (n/a) Reference Offer[21] and Tariff Regulation; Reference Offer and Tariff Regulation; Reference Offer and Tariff Regulation;
M9 - Wholesale broadband access at a fixed location	Ooredoo	Reference Offer and Tariff Regulation;
M10 - National trunk segment of (national and international) wholesale leased lines services	Ooredoo	Reference Offer and Tariff Regulation;
M11 - Terminating segment of (national and international) wholesale leased lines services	Ooredoo	Reference Offer and Tariff Regulation;
M12 - International transit segment of international wholesale leased lines services	(n/a)	(n/a)
M13 - Wholesale access and origination on public mobile networks	(n/a)	(n/a)
M14 - Wholesale termination on individual mobile networks	Ooredoo, Vodafone	Reference Offer and Tariff Regulation; RAS (Ooredoo); Accounting Information on request (Vodafone)

*** End of Document ***

[21] Cf. reasoning and comments in 4.4.3

Communications Regulatory Authority
State of Qatar
هيئة تنظيم الاتصالات
دولة قطر

NOTICE AND ORDERS

DESIGNATION OF OOREDOO Q.S.C. AND VODAFONE QATAR Q.S.C. AS DOMINANT SERVICE PROVIDERS IN SPECIFIED RELEVANT MARKETS

CRARAC 09/05/2016 A
May 09, 2016

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1 Introduction

In line with the requirements under the Telecommunications Law and international best practice, the Communications Regulatory Authority (**Authority**) regularly reviews the competitive dynamics in the telecommunications sector in order to determine the need for (ex-ante) regulatory intervention. This is referred to as the Market Definition and Dominance Designation (**MDDD**) process. The MDDD is updated periodically to ensure that any resulting regulation remains supported by and in line with the underlying market dynamics.

The Notice and Orders (**Notice and Orders**) issued by the Communications Regulatory Authority (**Authority**) specifies the Dominance Designation following a review of the degree of market power or dominance of any Service Providers (**SPs**) in the telecommunications sector in the State of Qatar. By this Notice and Orders, the Authority formally designates Ooredoo Q.S.C. (**Ooredoo**) and Vodafone Qatar Q.S.C. (**Vodafone**) as Dominant Service Providers (**DSP**) in certain Relevant Markets according to the methodology (Notice of Market Definition and Dominance Designation and for Ex Post Competition Policy Investigations published on 21 October 2015)[1].

In doing so, the Authority takes into account the presence of new market entrants and evaluates whether market forces are sufficient to safeguard the interest of customers and the public. The initial designation of QTel (which subsequently became Ooredoo) as DSP in specified Relevant Markets in Qatar took place by decision ICTRA 02/08A on 24 June 2008. Subsequently ictQATAR designated QTel and Vodafone as DSPs in specified Relevant Markets in Qatar by Notice and Order ICTRA 2011/10/31 on 31 October 2011.

This Notice and Orders follows public consultations carried out by the Authority including: (1) "Public Consultation on Preliminary Results from the Phase I activities (CRA 2015/05/12NC); and (2) Market Definition and Dominance Designation in Qatar, Dominance assessment in Relevant Markets (Phase II). CRARAC 1/02/16 Non-Confidential
This Notice and Orders also follows the decision of 9 July 2015, Market Definition and Dominance Designation in Qatar – Market definition and review of Candidate markets with competing infrastructure Final Decision (Phase 1).

2 Legal Basis

The legal basis for defining 'Relevant Markets' and designating 'Dominant Service Providers' is derived from a number of Decrees, Laws and By-Laws as set out below.

<u>Decree Law 34 of 2006</u>
Decree Law 34 of 2006 on the promulgation of the Telecommunications Law (**Telecommunications Law**) calls for licensing of Network and Service Providers (Article 9) on the one hand, and Spectrum licenses on the other (Article 15).

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[1] Notice of Market Definition and Dominance Designation and for Ex Post Competition Policy Investigations published on 21 October 2015 http://www.cra.gov.qa/sites/default/files/MDDD%20Methodology%20Notice.pdf

Telecommunications Law
The Telecommunications Law explicitly provides for the designation of DSPs in Articles 19.5, 23, 27, 40 and 42.

Article 40(1) of the Telecommunications Law entitles the Authority to review the state of competition in the telecommunications markets in the State and exercise its authorities, functions and powers to consolidate competition in the provision of telecommunications services.

Article 40(2) of the Telecommunications Law entitles the Authority to update the competitive policy and related regulations to reflect the state of competition in those markets, and this must be for the purpose of relying on market forces, where sufficient to safeguard the interests of customers and the public.

Article 40(3) of the Telecommunications Law entitles the Authority to determine the criteria that must be applied in the designation of SPs as having Significant Market Power (SMP), or dominance in identified telecommunications markets and implementing such criteria in any designation process.

Article 42 of the Telecommunications Law provides a legislative framework for the MDDD process, including the requirements of an order specifying the designation.

Article 42 of the Telecommunications Law grants the Authority discretion to consult with service providers or customers or any other interested parties in the course of undertaking the determination of any market, analysis or market power designation in accordance with the provisions of this article.
Article 62 of the Telecommunications Law empowers the Authority to require service providers or others to provide information in the manner and time, necessary for exercising its powers.

Executive By-Law
The Executive By-Law 1 of 2009 (**Executive By-Law**) empowers the Authority to issue other regulations, decisions, rules, orders, instructions and notices for the implementation of the provisions of the Law and this By-Law (Article 4). The Authority also shall carry out the powers and authorities stipulated in the Law and this By-Law (Article 5) and shall take measures, actions and decisions, as it deems appropriate, to ensure that Licensees and SPs comply with the provisions of the Law and this By-Law (Article 6).

Article 72 of the Executive By-Law requires the Authority to establish the standards and methodology that it applies in determining SMP status in a relevant market. Article 72 of the Executive By-Law sets out the criteria that may be included in the methodology.
According to Article 74 of the Executive By-Law, the Authority shall, from time to time, review its designation of service providers as dominant in the relevant markets and the specific requirements imposed upon those service providers as a result of that designation.

Article 124 of the Executive By-Law obliges the Authority to establish a dispute resolution process should disagreements arise between Service Providers and other entities.

Emiri Decree No. 42 of 2014
Article 4 of the Emiri Decree No. 42 of 2014 gives the Authority all the powers necessary to encourage competition and prohibit or minimize anti-competitive practices, prevent misuse of

any person or entity of its market dominance position, and take all necessary measures to achieve this and protect the rights and interests of the public and service providers in the market, promote transparency and provide advanced, innovative and quality services at affordable prices to meet the needs of the public.

Article 15 of the Emiri Decree No. 42 of 2014 directs the Authority to determine the criteria to assess, and modify if required, the market dominance status, and lay down economic rules in this regard; develop criteria for the market definitions, follow up market conditions, competition, and the status of a dominant service provider; and develop and identify policies and regulations for all services which will foster a competitive market and serve the interests of the consumers.

3 Process

3.1 Previous MDDD rounds in 2008 and 2011

This current MDDD follows previous MDDD decisions in 2008 and 2011.

The 2008 MDDD (ICTRA 02/08) was issued on 3 April 2008. IctQATAR defined seven retail markets and eight wholesale markets which each covered all Qatar. It found that QTel (which later became Ooredoo) was dominant in all markets.
In 2011, ictQATAR issued a further MDDD (ICTRA2011/10/31). It defined seven retail markets and a further seven wholesale markets[2]. It found that Ooredoo was dominant in all fourteen relevant markets in which it supplies services. It found that Vodafone was dominant in two relevant markets[3].

3.2 Developments

The key market developments since 2011 and the resulting need for this update is motivated, amongst others, by the following:

- At the time of the 2011 MDDD, both Vodafone and Qnbn had only recently entered the Qatari telecommunications market as a SP. Since then, the sector has been characterised by the growth of two competing national (mobile) network infrastructures and a passive infrastructure in parts of Qatar. Given this, the Authority considers it important to assess the resulting impact of the competitive dynamics in the sector.
- Competition in fixed voice and broadband services and associated wholesale services has not developed sufficiently so far and Ooredoo remains the only SP on a national scale.
- Vodafone remains reliant on Ooredoo for certain wholesale services.

As part of the 2011 MDDD the Authority further identified three Relevant Markets which, at the time, were considered to be ‘dynamic’ and thus would be the focus of the next MDDD update (with the remaining Relevant Markets being assessed based on market shares, lack of

[2] Note that the wholesale markets included two markets where both QTel and Vodafone were each the only supplier in of services. These were the markets for Termination on public telecommunications networks at fixed locations on each of Ooredoo’s network and Vodafone’s network; and Termination on public mobile networks on each of Ooredoo’s and Vodafone’s networks.

[3] These were the markets for Termination on public telecommunications networks at fixed locations on Vodafone’s network; and Termination on public mobile networks on Vodafone’s networks

countervailing buying power and the likelihood of further entry) [4]. These markets included the markets for:

- Retail national voice services from a mobile device,
- Retail mobile broadband services and
- Retail outgoing international call services from a fixed location or mobile device.

In June 2014 the Authority issued a policy statement (**2014 Policy Statement)** setting out its overall approach to regulation of the sector going forward.[5] This, amongst others, stated the Authority's focus should be on regulating wholesale markets and prevailing bottlenecks. This is particularly relevant in markets which are characterised by competing national networks, as is the case for mobile voice and broadband services in Qatar, as there may be no bottlenecks in these markets. With that Policy, the Authority highlighted that:

- Ex-ante regulation at the wholesale level should be considered sufficient to tackle potential competition problems on the related downstream market(s).
- Regulation shall shift its focus from the retail markets to wholesale markets, as part of a move towards less intrusive and lighter forms of regulation, so supporting market innovation.
- The proposed shift to wholesale regulation implies shifting the level of regulation to a higher point in the value chain, focusing on economic bottlenecks, where inputs are not replicable from a technological or economic point of view.

Such a change in focus does not mean that retail regulation will disappear immediately: instead, the shift will be gradual, with wholesale regulation as the Authority's main tool to achieve its objectives to the benefit of customers, providers and of the national economic system.

In preparation for this MDDD update, the Authority has also reviewed its **MDDD methodology.** This review was based on the obligation recognized by Article 72 of the Executive By-Law 1 of 2009 (**Executive By-Law**) requiring the Authority to establish the standards and methodology to be applied in determining SMP status in a relevant market.

The Authority put forward a consultation (CRA 2014/06/25 of 25 June 2014) in which it asked stakeholders' views on the introduction of the TCT in the market definition stage of an MDDD. In that consultation, the Authority proposed:

- To review the "Notice of the Standards, Methodology and Analysis to be applied in the Review of Market Definition and Dominance Designation in the Telecommunication Sector in Qatar" (ICTRA 2011/03/31b) for the Market definition, including the assessment of the Markets susceptible for ex-ante regulation. More specifically, The Authority set out that it would consider the adoption of the TCT used in the European Union.
- To reduce the number of the Retail Markets subject to ex-ante regulation, relying on the wholesale reference offers to support the development of competition.
- To use ex-post regulation to monitor the markets and the Service Providers behavior.
- To analyze the existence of "sub-markets".

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[4] This "Shortcut Process" is outlined in the Authority's Notice and Orders on the Methodology and Standards for Determining Market Power 2011 (Notice and Orders 2011)

[5] http://cra.gov.qa/sites/default/files/Policy%20Statement-Regulating%20for%20the%20future-En.pdf

- To clarify the content of the current M10 “Wholesale physical network infrastructure access” market and to perform an investigation into international connectivity.

The above consultation was followed-up by a secondary consultation in November 2014 (CRA-RAC-14-153 of 30 November 2014) asking stakeholders to elaborate further on their perspective of the TCT. Specifically, the Authority asked SPs to specify their views on departing from the 2010 methodology, on whether they think the TCT is appropriate as a new framework and whether there are further changes they would like to see in the market definition stage.

In parallel, the Authority consulted on and published a **Competition Policy**[6], setting out, among others, the approach it will take to examining allegations of anti-competitive behavior by SPs.

3.3 Current MDDD Process

The current MDDD process was conducted in two phases:

- **Phase I** – During this initial phase, the Authority developed a list of Candidate Markets as per the defined. Phase I concluded with the issuing of the Final Decision in July 2015 (CRA 2015/RAC/09) in which the Authority concluded there was a need to amend some of the markets to better reflect the dynamics in the sector.
- **Phase II** – During the second phase, the Authority applied the TCT to the Candidate Markets.

During **Phase II**, the Authority has applied the TCT to the Candidate Markets. To the extent that markets meet the TCT, the Authority has then assessed competition in each Relevant Market, with a view to identifying any Dominant Service Providers (DSPs), and determining the regulatory remedies for DSPs.
On February 1, 2016 the Authority consulted on its preliminary results from the Phase II activities (CRARAC 1/02/16). On March 17, 2016 responses were received from Ooredoo, QNBN and Vodafone.

With these Notice and Orders the Authority concludes Phase II of the MDDD process. These Notice and Orders are supported by an economic analysis which includes responses to SPs submissions to the draft Notice and Orders alongside the Authorities final position. This document is issued simultaneously with these Notice and Orders.

4 ORDER SPECIFYING RELEVANT MARKETS

With Phase II the Authority has reached conclusions regarding the Candidate Markets susceptible to ex ante regulation. (i.e. designating them as Relevant Markets) as summarized in the table below:

[6] http://cra.gov.qa/sites/default/files/Competition%20Policy%20-%20%20Document_0.pdf

Table 1. *Retail and Wholesale Candidate and Relevant Markets*

Market Definition Candidate Market	Relevant Market
Retail service markets	
M1 - Retail national fixed voice and broadband services	
• M1a - Retail fixed access services	Yes
• M1b - Retail national fixed call services	Yes
• M1c - Retail fixed broadband services	Yes
M2 - Retail international outgoing call services	
• M2a - Retail international outgoing call services at a fixed location – Residential customers	Yes
• M2b - Retail international outgoing call services at a fixed location – Business customers	Yes
• M2c - Retail international outgoing call services from a mobile device – Residential customers	No
• M2d - Retail international outgoing call services from a mobile device – Business customers	No
M3 – Retail national leased lines services	Yes
M4 – Retail international leased lines services	Yes
M5 – Retail national mobile voice and broadband services	
• M5a – Retail national mobile voice and broadband services – Residential customers	No
• M5b – Retail national mobile voice and broadband services – Business customers	No
Wholesale service markets	
M6 - Wholesale call origination on public telecommunications networks at a fixed location	Yes
M7 - Wholesale termination on individual telecommunications networks at a fixed location	Yes
M8 - Wholesale physical access to network infrastructure	
• M8a - Physical access to SPs' mobile sites, masts, towers, including relevant ancillary facilities/services and colocation space	No
• M8b - Physical access to SPs' dark fiber and copper, including relevant ancillary facilities/services and colocation space	Yes
• M8c - Physical access to SPs' ducts, including relevant ancillary facilities/services and colocation space	Yes
• M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	Yes
M9 - Wholesale broadband access at a fixed location	Yes
M10 - National trunk segment of (national and international) wholesale leased lines services	Yes
M11 - Terminating segment of (national and international) wholesale leased lines services	Yes
M12 - International transit segment of international wholesale leased lines services	No
M13 - Wholesale access and origination on public mobile networks	No
M14 - Wholesale termination on individual mobile networks	Yes

These wholesale and retail markets include all ancillary services that are provided as an adjunct to or in support of these services, including but not limited to mediation hooks, access to OSS/BSS, number translation systems, databases, relevant network and planning information, colocation space, access to facilities, and so on.

5 ORDER DESIGNATING OOREDOO AND VODAFONE AS DOMINANT IN SPECIFIED RELEVANT MARKETS

Designation of Ooredoo as having a Dominant Position in specified Relevant Markets

The Authority hereby concludes that Ooredoo is a DSP in the following Relevant Markets
Retail Markets:
M1 - Retail national fixed voice and broadband services:
- M1a - Retail fixed access services.
- M1b - Retail national fixed call services.
- M1c - Retail fixed broadband services.

M2 - Retail international outgoing call services:
- M2a - Retail international outgoing call services at a fixed location – Residential customers.
- M2b - Retail international outgoing call services at a fixed location – Business customers.

M3 – Retail national leased lines services.
M4 – Retail international leased lines services.

Wholesale markets:
M6 - Wholesale call origination on public telecommunications networks at a fixed location.
M7 - Wholesale termination on its telecommunications network at a fixed location.
M8 - Wholesale physical access to network infrastructure:
- M8b - Physical access to SPs' dark fiber and copper, including relevant ancillary facilities/services and colocation space.
- M8c - Physical access to SPs' ducts, including relevant ancillary facilities/services and colocation space.
- M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).

M9 - Wholesale broadband access at a fixed location.
M10 - National trunk segment of (national and international) wholesale leased lines services.
M11 - Terminating segment of (national and international) wholesale leased lines services.
M14 - Wholesale termination on its mobile network.

Designation of Vodafone as having a Dominant Position on one or more Relevant Markets
The Authority has concluded that Vodafone is a DSP on the following relevant markets:

M7 - Wholesale termination on its telecommunications network at a fixed location.
M14 - Wholesale termination on its mobile network.

6 Remedies

6.1 Applicable ex-ante regulatory remedies for DSPs

Where SPs are designated as a DSP in any Relevant Market they will be subject to obligations (Standard Obligations) that are now, or may in the future be included, in the Telecommunications Law, the Executive By-Law, related regulations, rules, orders, notices, decisions and instructions, and the telecommunications license issued. These documents together define the obligations applicable to SPs in the Relevant Markets in which they are deemed to be DSP.

The Authority may impose additional obligations (Specific Obligations) on DSPs in Relevant Markets where it is likely that these standard obligations are not sufficient to prevent an abuse of dominance, or where additional obligations may be needed to prevent market failure or outcomes that are not in the public interest, and may be required to enable effective competition to emerge.

The following tables set out the key obligations, or ex-ante regulatory remedies, which apply either automatically (**Table 2**) or which the Authority has decided to impose on DSPs (**Table 3**).

Table 2. *Standard Obligations, which apply automatically to DSPs*

Service provisioning
Granting of interconnection and access to access seekers, whenever technically feasible, on a non-discriminatory basis (Art. 18 and 24, Telecoms Law)
Provision of facilities and services to wholesale customers in accordance with the pricing, interconnection, access colocation, site sharing, roaming, way-leave, coordination, quality of service and other obligations prescribed by the applicable regulatory framework (Art. 11, License)
Tariff approval requirements
Tariff submission and pre-approval requirements (Art. 28 of the Telecoms Law; Art.3 Annexure D of License[7]),
Reference offers and wholesale agreements
Preparation, update and publication of reference offers for interconnection services (Art. 51 of By-Law)
Filing of interconnection and access agreements to the Authority (Art. 52 of By-Law)
Requirements for interconnection and access agreements (Art. 49 of By-Law): • Non-discriminatory treatment of other SPs regarding interconnection or facilities access; • Provision of interconnection and facilities access to all SPs under substantially the same conditions and quality as DSP provides for own service provision;

[7] Unless the competitive market forces are solely capable of protecting the interests of customers and have eliminated the harmful threat to competition

• Making available all necessary or reasonably required information for interconnection or facilities access; • Use of information received from a SP seeking interconnection or facilities access only for the purposes for which it was supplied	
Information disclosure	
Disclosure of Network Technical Information (No 2., Annexure I of License)	
Additional requirements	
Obligation on Cost Accounting and Accounting Separation (Art. 33 of the Telecoms Law).	
Meeting requests regarding interconnection and access which relate to DSP's charges or calculation of costs or the requirements of accounting separation (Art. 18 of Telecoms Law)	
No excessive fees (Art. 29 of Telecoms Law)	
Prohibition of abuse of dominance (Art. 41 and 43 of Telecoms Law; Art. 75 of the By-Law; and Annexure I of License)8	

6.2 Remedies on DSPs

The Specific Obligations imposed in each market are summarized in Table 3 below.
For the avoidance of doubt these are in addition to the Standard Obligations automatically applied to DSPs (as set out in **Table 2** above), and other regulatory obligations imposed on SPs unrelated to dominance (such as, competition policy, mobile site sharing, open access requirements and regular reporting requirements to the Authority), and remedies imposed on DSPs which are not specific to a particular market (such as the requirement for Ooredoo to prepare and submit Regulatory Accounting System for all its activities).

These remedies include:
Reporting requirements
The requirements for all DSPs to provide to the Authority on a quarterly basis, operational and financial data for each identified market in this MDDD process.
Retail Tariff (RTI)
The requirements for a DSP for tariff approval are governed by the Retail Tariff Instruction.
Regulatory Accounting System (RAS) - Obligations on Accounting Separation and Cost Accounting
The requirement for Ooredoo to prepare and submit on an annual basis regulatory accounts and cost accounting information covering all services it is currently offering (independent of whether it is a DSP in the Relevant Market The RAS should provide the Authority and Ooredoo with both:

- A separated set of accounts (Accounting Separation) that clearly shows revenue, cost, transfer charge (when needed) and profitability of the services
- Cost elements for wholesale and retail products (Cost Accounting) which will be used as the basis upon which the Authority will make decisions with regard to wholesale charges and retail tariff approvals. The Cost Accounting should be organized to clearly demonstrate the non-discrimination between Ooredoo Retail Arms and OLO. This means that Ooredoo must develop cost models showing that the same cost per unit have been attributed to Ooredoo Retail Arms and to OLOs. This is strictly

[8] This includes , amongst others, the requirement to avoid exclusionary conduct, forebear from tying if it leads to an abuse of a dominant position, avoid anti-competitive discounts, refrain from anti-competitive refusals to supply, avoid predatory/below cost pricing, avoid cross-subsidization, avoid price-squeezing and predatory network alteration, refrain from monopolizing the use of scarce facilities and resources and performing any actions that have the effect of substantially lessening competition in any telecommunications market.

required for each wholesale product sold to the OLO, including both recurring services (for example, duct access rental, termination charges, etc.) and one-time services (for example, Installation Fees, Route Area Request, Supervision Charge, etc.).

Ooredoo is expected to use the RAS data as evidence to support all and any submissions on cost and on retail tariff approval, unless different instructions are issued by the Authority.

The Authority has in the past received sufficient financial information from Vodafone to establish Vodafone's mobile termination rates. Vodafone further has to submit the MDDD indicator data on quarterly basis. The Authority considers that these reporting requirements jointly address the main information needs from Vodafone in the context of its dominance findings. As such, both these requirements will continue to apply going forward. If the need arises the Authority may consider a RAS obligation on Vodafone.

Wholesale charge regulation

The requirement to offer cost-oriented charges for all wholesale services falling in markets in which a SP is found to be dominant.

Preparation of Reference Offer

The requirement for DSPs - upon request of the Authority - to prepare, update and publish reference offers for wholesale access and interconnection services falling in markets in which they are found to be dominant.

For the avoidance the Authority confirms it will not require Ooredoo to prepare a reference offer for dark fiber at this point at time. The Authority is of the view that Ooredoo shall implement duct access as well as active wholesale access products such as VULA/Bitstream and wholesale leased lines. However, if this set of wholesale products are not offered, in a workable fashion within one year from the date of this order the Authority will consider additional remedies.

Table 3 Specific Obligations on DSPs in each market

Markets	DSP(s)	Remedies
Retail service markets		
M1 - Retail national fixed voice and broadband services		
• M1a - Retail fixed access services	**Ooredoo**	**RTI**
• M1b - Retail national fixed call services	**Ooredoo**	**RTI**
• M1c - Retail fixed broadband services	**Ooredoo**	**RTI**
M2 - Retail international outgoing call services		
• M2a - Retail international outgoing call services at a fixed location – Residential customers	**Ooredoo**	**RTI**
• M2b - Retail international outgoing call services at a fixed location – Business customers	**Ooredoo**	**RTI**
• M2c - Retail international outgoing call services from a mobile device – Residential customers	**n/a**	**n/a**
• M2d - Retail international outgoing call services from a mobile device – Business customers	**n/a**	**n/a**
M3 - Retail national leased lines services	**Ooredoo**	**RTI**
M4 - Retail international leased lines services	**Ooredoo**	**RTI**
M5 - Retail national mobile voice and broadband services		
• M5a - Retail national mobile voice and broadband services – Residential customers	**n/a**	**n/a**

• M5b - Retail national mobile voice and broadband services – Business customers	**n/a**	**n/a**
Wholesale service markets		
M6 - Wholesale call origination on public telecommunications networks at a fixed location	**Ooredoo**	**Reference Offer and Tariff Regulation**
M7 - Wholesale termination on individual telecommunications networks at a fixed location	**Ooredoo, Vodafone**	**All: Reference Offer and Tariff Regulation; On request: Accounting Information for Vodafone.**
M8 - Wholesale physical access to network infrastructure		
• M8a - Physical access to SPs' mobile sites, masts, towers, including relevant ancillary facilities/services and colocation space	**n/a**	**n/a**
• M8b - Physical access to SP's dark fiber and copper, including relevant ancillary facilities/services and colocation space	**Ooredoo**	**Reference Offer and Tariff Regulation**
• M8c - Physical access to SP's ducts, including relevant ancillary facilities/services and colocation space	**Ooredoo**	**Reference Offer and Tariff Regulation**
• M8d - Functional access to international gateway facilities required to gain international connectivity (including, but not limited to, physical access to the facilities, colocation space, cross-connects and other relevant ancillary facilities and/or services).	**Ooredoo**	**Reference Offer and Tariff Regulation**
M9 - Wholesale broadband access at a fixed location	**Ooredoo**	**Reference Offer and Tariff Regulation**
M10 - National trunk segment of (national and international) wholesale leased lines services	**Ooredoo**	**Reference Offer and Tariff Regulation**
M11 - Terminating segment of (national and international) wholesale leased lines services	**Ooredoo**	**Reference Offer and Tariff Regulation**
M12 - International transit segment of international wholesale leased lines services	**n/a**	**n/a**
M13 - Wholesale access and origination on public mobile networks	**n/a**	**n/a**
M14 - Wholesale termination on individual mobile networks	**Ooredoo, Vodafone**	**All: Reference Offer and Tariff Regulation; On request: Accounting Information for Vodafone**

7 THE APPLICABLE REVIEW PROCESS FOR FURTHER DESIGNATION OR WITHDRAWAL OF THE SAME

The Authority foresees that the findings set out in this Final Notice and Order will remain appropriate for approximately the next three to four years.

To support the Authority's ongoing assessment of the markets, the Authority requires market data to be submitted by the SPs on a quarterly, basis. Ooredoo, Vodafone and any other SP at wholesale or Retail level are therefore obliged to submit to the Authority on a quarterly basis, coinciding with their quarterly published results (no later than a week after its publication), basic Indicators on the Relevant Markets. The Authority will notify SPs of their reporting requirements. The Authority will consult on the format of reporting under the new market definitions and this will be communicated in a separate and forthcoming consultation process. Until new reporting requirements are set by the Authority the existing reporting requirements remain.

If those indicators illustrate a significant change or anomalies in market conditions in any particular market, the Authority may start an in-depth investigation in the Relevant Market(s). The SPs may address the Authority with a substantiated request for a more in-depth analysis in these markets, if they believe that market conditions have changed. Any such request must be supported with a reliable and detailed justification and has to be corroborated with facts and figures. The decision and sole discretion as whether to take action in these matters continues to rest with the Authority.

Signed

Mohammed Ali Al-Mannai
President of the Communication Regulatory Authority

Dated
May 9, 2016