Determination of Dominance in the Mobile Termination Markets

Draft Determination

Issued by the Telecommunications Regulatory Authority

18 October 2018

Ref: MCD/10/18/086

Public Version

(Confidential information has been replaced by **[✂]**)

Purpose: To define the relevant markets for terminating voice calls, Short Messaging Services (SMS) and Multimedia Messaging Services (MMS) on mobile networks in the Kingdom of Bahrain and to assess competition in those markets.

Instructions for submitting a response

The Telecommunications Regulatory Authority (the 'Authority') invites comments on this draft Determination from all interested parties. Comments should be submitted to the Authority by 4pm, 18 November 2018.

Responses should be sent to the Authority preferably by email (or by post) to the attention of:

Director, Market and Competition Department
rad@tra.org.bh
Telecommunications Regulatory Authority
P.O. Box 10353
Manama
Kingdom of Bahrain
Fax: +973 1753 2125

Responses should include:

- the name of the company/institution/association etc.;
- the name of the principal contact person;
- full contact details (physical address, telephone number, fax number, and email address); and
- in the cases of responses from individual consumers, names and contact details.

The Authority expects the responses to follow the same structure as set out in the draft Determination and the Annex. The Authority also invites respondents to substantiate their responses to the questions raised, wherever possible by providing factual evidence to support their responses.

In the interest of transparency, the Authority will make all submissions received available to the public, subject to the confidentiality of the information received. The Authority could allow one round of cross-submissions, where respondents who provided a submission on the draft Determination are able to provide a cross-submission in which they can comment on the submissions of other parties. The Authority will ensure that public versions of the submissions are available on the Authority's website with sufficient time to permit cross-submissions.

The Authority will evaluate requests for confidentiality in line with relevant legal provisions and the Authority's published guidance on the treatment of confidential and non-confidential information.[1]

Respondents are required to clearly mark any specific information included in their submission which is considered confidential. Where such confidential information is included, respondents are required to provide both a **confidential** and **non-confidential** version of their submission. If a submission is marked confidential in its entirety, reasons for this should be provided. The

[1] The Authority, "A Guidance Paper issued by the Telecommunications Regulatory Authority on its treatment of Confidential and Non-confidential Information", Guidance Paper No. 2 of 2007, 10 September 2007.

Authority may publish or refrain from publishing any document or submission at its sole discretion.

Once the Authority has received and considered submissions on this draft Determination, the Authority will issue a final Determination, together with the Reasoning for the Authority's findings.

DETERMINATION OF DOMINANCE

HAVING REGARD TO THE LEGISLATIVE DECREE NO. 48 OF 2002 PROMULGATING THE TELECOMMUNICATIONS LAW, THE COMPETITION GUIDELINES ISSUED BY THE TELECOMMUNICATIONS REGULATORY AUTHORITY OF THE KINGDOM OF BAHRAIN ON 18 FEBRUARY 2010, THE AUTHORITY'S 2015 STRATEGIC MARKET REVIEW, ALL ADMISSIBLE EVIDENCE AND THE SUBMISSIONS MADE BY INTERESTED PARTIES, THE TELECOMMUNICATIONS REGULATORY AUTHORITY OF THE KINGDOM OF BAHRAIN HEREBY MAKES THE FOLLOWING DETERMINATION:

a. For the reasons set out in the Annex to this Determination, the Telecommunications Regulatory Authority of the Kingdom of Bahrain (the 'Authority') has identified separate markets consisting of:

   i. Wholesale call termination services on the network of each Mobile Network Operator (MNO) in Bahrain (i.e., Batelco, VIVA and Zain); and

   ii. Wholesale termination of Short Messaging Services (SMS) and Multimedia Messaging Services (MMS) on the network of each MNO.

b. Furthermore, the Authority has identified and determines that:

   i. All three licensees (i.e., Batelco, VIVA and Zain) have a position of Dominance in the wholesale market for call termination on their own mobile network.

   ii. The wholesale markets for SMS and MMS termination are considered not to be susceptible to ex ante regulation.

c. This Determination will be reviewed when market conditions, as determined by the Authority, warrant it.

d. This Determination is without prejudice to the Authority's powers under the Telecommunications Law, promulgated by the Legislative Decree No.48 of 2002, the Competition Guidelines, issued by the Authority on 18 February 2010, and the outcome of any on-going or future investigation, consultation or other regulatory process or measure carried out pursuant to such powers, all or any of which may result in the application of different terms and/or findings than those of this Determination, including the Determination and definition of new markets and the designation of Dominance.

e. This Determination shall come into effect from the date of its issuance.

f. This Determination supersedes the Determinations of Dominance in mobile termination markets issued by the Authority on 1 February 2010 and 16 May 2013.

Signed on

[●]

Nasser bin Mohamed Al-Khalifa

Acting General Director

Telecommunication Regulatory Authority

Manama, Kingdom of Bahrain

Annex 1 - Reasoning for the draft Determination

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List of acronyms and definitions

Batelco	Bahrain Telecommunications Company B.S.C
BD	Bahraini Dinar
CAGR	Compound Annual Growth Rate
CPP	Calling Party Pays
EC	European Commission
EU	European Union
GCC countries	Gulf Cooperation Council countries
HHI	Herfindahl-Hirschman Index
MMS	Multimedia Messaging Services
NRA	National Regulatory Authorities
Ofcom	Office of Communications (UK communications regulator)
OLO	Other Licensed Operator
OTT	Over the top
QoS	Quality of Service
RTN	Retail Tariff Notification
SMS	Short Messaging Services
SMP	Significant Market Power
SMR	Strategic Market Review
SSNIP	Small but Significant Non-transitory Increase in Price
TRA	Telecommunications Regulatory Authority of the Kingdom of Bahrain
VIVA	VIVA Bahrain BSC
VoIP	Voice over Internet Protocol
Zain	Zain Bahrain B.S.C.

1 Introduction and purpose of this Determination

1. Termination services on mobile networks in the Kingdom of Bahrain were last reviewed in 2010[2] with Batelco and Zain being declared dominant for call and messaging termination services on their respective mobile networks. VIVA was separately declared dominant for call and messaging termination services on its network in 2013.[3] Regulated mobile call termination rates were most recently set in 2015.[4]

2. In 2015, the Authority further conducted its most recent Strategic Market Review (SMR).[5] This described a number of changes that are taking place in the sector which could, amongst others, be affecting mobile termination markets. In the SMR, the Authority therefore considered whether the current assessment of market power in the wholesale mobile termination markets continued to remain appropriate and justified.

3. The Authority's preliminary conclusion set out in the SMR was that call termination services on mobile networks appeared to continue to meet a number of criteria which suggested that ex ante regulation of these services remained appropriate. However, the Authority identified potentially important differences between call and messaging termination services which could limit the requirement to continue to impose ex ante regulation on messaging termination services. Therefore, the Authority stated in the SMR that it would, in due course, undertake a formal review of wholesale mobile termination markets.

4. The preliminary findings of the Authority's review are set out in this draft Determination and annex. Specifically, this annex reviews market developments in the provision of wholesale mobile termination services since the last Dominance Determinations in 2010 and 2013, taking into account the observations made in the 2015 SMR as well as more recent developments.

5. In particular, the Authority revises the definitions of candidate markets along the lines of the 2015 SMR findings. That is, by applying the hypothetical monopolist / SSNIP test, the Authority concludes, through an analysis of demand and supply-side substitution factors, and general market trends, that mobile voice call and messaging termination services are in separate markets. The Authority then evaluates whether these markets are susceptible to ex ante regulation going forward. This is based on the so called three criteria test (TCT), according to which

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2 Telecommunications Regulatory Authority (February 1, 2010) "Dominance Determination in respect of mobile termination services on individual mobile networks" (Ref: MCD/02/10/010)

3 Telecommunications Regulatory Authority (May 16, 2013) "Final Determination of Dominant Position in the Market for Termination Services on VIVA's Mobile Network" (Ref: MCD/05/13/044)

4 Telecommunications Regulatory Authority (September 17, 2015) "Reference Offer Orders on Bahrain Telecommunications Company B.S.C., Viva Bahrain B.S.C, and Zain Bahrain B.S.C. setting the regulated call termination rates" (Ref: MCD/09/15/067)

5 Telecommunications Regulatory Authority (August 31, 2015) "Strategic Market Review: Future Ex Ante Market Regulation and other Regulatory Measures to Foster a Dynamic Sector Development. Final Report" (Ref: MCD/08/15/062)

a candidate market must exhibit all of the following three characteristics to be classified as a market susceptible to ex ante regulation:

a. The presence of high and non-transitory barriers to entry

b. A market structure which does not tend towards effective competition within the relevant time horizon; and

c. A market where competition law (ex post intervention) alone is insufficient to adequately address the market failure(s) concerned.

6. Based on this analysis, the Authority has identified that the markets for mobile call termination services on each mobile operator's network remain susceptible to ex ante regulation. However, the markets for messaging termination on each mobile operator's network are not susceptible to ex ante regulation.

7. In each market it has identified as being susceptible to ex ante regulation, the Authority has then assessed the level of competition in order to identify whether any provider holds a dominant position in each relevant market. Based on this, the Authority has identified Batelco, VIVA and Zain as each holding a dominant position in the market for call termination services on their respective mobile networks.

8. This remainder of this Annex is structured as follows:

- Section 2 provides an overview of the analytical framework used to identify dominance in a relevant market.
- Section 3 summarises the 2010 and 2013 determinations on the wholesale mobile termination markets and provides a summary of existing regulation.
- Section 4 summarises the developments in this market since 2010.
- Section 5 defines the relevant mobile termination markets.
- Section 6 assesses competition in the relevant markets and identifies whether any licensee has a dominant position.

2 Analytical framework

9. To determine whether a licensed operator or operators holds Significant Market Power (SMP) and/or dominance[6] in a relevant market, the Authority adopts a three-step process:
    a. definition of the relevant market(s);
    b. analysis of competition in the relevant market(s); and
    c. identification of operator(s) who have SMP / dominant position, if any.
10. Throughout the three-step process, the Authority applies an analytical framework that is consistent with the Telecommunications Law and the Authority's Competition Guidelines.7 The tools and principles employed by the Authority are similar to those employed by other National Regulatory Authorities (NRAs) and competition authorities, including the European Commission and national telecommunications regulatory authorities across the European Union (EU) and the Gulf Cooperation Countries (GCC).

2.1 Market definition

11. At the first stage, the Authority defines the economic boundaries of the market(s) under consideration (i.e., the boundaries of the market for the focal product). That is, it identifies those services that are considered by users and suppliers to be close economic substitutes to the focal product. This examines two key dimensions: the product and the geographical boundaries of the market, and for the reasons below, considers conditions in the provision of both wholesale and retail services.
12. In practice, the Authority conducts this assessment by taking, as a starting point, the previously defined markets in Bahrain and then, by evaluating whether a hypothetical monopolist supplier could impose a small but significant non-transitory increase in price (SSNIP) of 5-10% above the competitive level without losing sales to such a degree as to make this price rise unprofitable. In so doing, the Authority, draws also on recent market developments to ensure that the relevant markets remain appropriate and reflective of current and expected market dynamics.
13. In this market review, the Authority's market definitions focus on the markets in which mobile termination services are supplied. However, it is important to recognise these wholesale markets are derived from the demand for mobile calls and messaging services among end-users.

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[6] Note that the Authority considers the terms "dominance" and "dominant position" equivalent and uses them interchangeably through the document.

[7] See "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

a. This is important because behaviour at the retail level may act as an indirect constraint on wholesale prices (and hence market power).[8] In particular, direct substitution for mobile termination services at the wholesale level is not possible. As such, the Authority also assesses whether there is any indirect substitution through substitution at the retail level which could impact the demand for wholesale call termination services.

b. Secondly, wholesale markets should be defined while taking into account the corresponding retail markets, such that any regulatory remedies imposed in the upstream markets facilitate effective competition in the relevant downstream markets. This principle is consistent with the Authority's 2015 SMR[9] and common practice elsewhere. [10]

14. In conducting such a market definition analysis, however, it is important to note that whether another service places a competitive constraint on the focal product in question, such that the ability of the hypothetical monopolist to act independently in the provision of the focal product is constrained, is not a binary question. That is, even though sufficient evidence may not exist to define two services as falling within the same economic market, it would not necessarily be the case that there is no competitive interaction between the products. That is, one service can still place some potential competitive constraint on the pricing of another service, on a forward looking basis, even though the services are not defined to be within the same market (although this potential, forward looking constraint would typically be considered to be less strong than any competitive constraint from services within the same market as the focal product). This is also recognised by the European Commission.[11]

15. Having identified the markets, the Authority then assesses which of these markets remains susceptible to ex ante regulation. This is undertaken based on the so called 'three criteria test'. The application of this test was set out by the Authority in the 2015 SMR and is in line with international (i.e. across the European Union[12])

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8 Ofcom (June, 2017) Mobile call termination market review 2018 – 21. Page 17. Available online in: https://www.ofcom.org.uk/__data/assets/pdf_file/0011/103340/mobile-call-termination-consultation.pdf

9 TRA, SMR (August 2015), "*TRA proposes that where possible, going forward, ex ante regulation should be lifted in all retail markets. This is based on the standard principle that ex ante regulation in retail markets should only be introduced (or retained) if ex ante regulation of relevant (upstream) wholesale markets is not sufficient to correct a market failure (i.e. lack of effective and sustainable competition). Furthermore, ex ante regulation should in any case only be introduced (or retained) if general competition law (i.e. ex-post regulation) is not sufficient to deal with market failures."* Telecommunications Regulatory Authority (August 31, 2015) Future Ex ante Market Regulation and Other Regulatory Measures to Foster a Dynamic Sector Development. Page 4 ¶ 4.

10 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

11 European Commission (2018), *"Guidelines on market analysis and the assessment of significant market power under the* EU regulatory framework for electronic communications networks and services" (2018/C 159/01).

Where no sufficient substitutability patterns can be established to warrant including such OTT-based services in the relevant product market, NRAs should, nevertheless, consider the potential competitive constraints exercised by these services at the stage of the SMP assessment

12 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

and regional precedence (i.e. Saudi Arabia[13] and Qatar[14]). This test aims to identify those markets where ex ante regulation could remain necessary. It does this by considering the following three criteria:

a. Whether there is evidence in the market of high and non-transitory barriers to entry;

b. Whether there is evidence that the market does not tend towards effective competition within the relevant time horizon; and

c. Whether competition law (or, in the Authority's case, its powers under Article 65 of the Telecommunications Law) are, by themselves, adequate to address any market failure(s) that could arise in the market under consideration.

16. Any market cumulatively complying with these criteria is considered as susceptible to ex ante regulation. Only those markets are then considered further in terms of a competition assessment and remedy design to address any potential competitive concerns in these markets. All remaining markets are considered prospectively competitive and not susceptible to ex ante regulation and so are not considered further.

2.2 Competition assessment and Dominance Determination

17. The Telecommunications Law refers to two concepts of market power, namely a Dominant Position and SMP.

18. Article 1 of the Telecommunications Law defines both SMP and a Dominant Position. An operator with SMP is defined as holding a share of 25% or more of the relevant market as determined by the Authority.[15] However, in determining whether an operator has SMP, the Authority must also take into account a number of other factors, including the ability of the Licensed Operator to influence market conditions, its turnover relative to the size of the market, its control over access to end users, its financial resources, and its experience of providing products and services in the market. The Authority may determine that a Licensed Operator has SMP even if its market share is less than 25%, or that it does not hold SMP even though its market share exceeds 25%.

19. In terms of Dominant Position, according to Article 1 of the Telecommunication Law, a Licensee holds a dominant position if it has economic power enabling it to prevent the existence and continuation of effective competition in the relevant

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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)

[13] Communications and Information Technology Commission (2017), "Market Definition Designation and Dominance Report".

[14] Communication Regulatory Authority of the State of Qatar (2015) "Market Definition and Dominance Designation in Qatar - Market definition and review of Candidate Markets".

[15] Telecommunications Law of the Kingdom of Bahrain, page 8.

market through the ability to act independently – to a material extent – of competitors, subscribers and users.

20. In practice, and as set out in the Competition Guidelines, the Authority considers that the concepts of SMP and dominance are similar,[16] with both capturing the ability of a firm to act independently of its competitors, its customers and ultimately of consumers, for example by sustaining prices above the competitive level.[17] However, the legal definition of SMP in the Telecommunications Law places greater emphasis on market shares, while recognising the need to consider carefully the ability of an operator to influence market conditions, i.e. to act independently.

21. In addition, within the Telecommunications Law, findings of dominance and SMP impart different ex ante regulatory obligations on affected operators with, implicitly, dominance referring to wholesale markets and references to SMP relating to retail markets. That is:[18]

    a. Obligations in Article 57 relating to publishing an interconnection or access reference offer refer to operators with a dominant position at the wholesale level; and

    b. Obligations in Article 58 relating to tariffs controls refer to operators with SMP at the retail level.

22. Given this, as the current market review is focused on the provision of wholesale services, the Authority has focused its analysis on whether any licensed operator active in a relevant market enjoys a dominant position in that market. This is consistent with the approach the Authority has taken in other market reviews (i.e., where it applies the concept of dominance, rather than SMP, when analysing wholesale markets).

23. Further, the Authority notes that the aim of undertaking an *ex ante* assessment of market power is to understand how competitive the market currently is and whether this is likely to change within a reasonable timeframe. As noted in the Competition Guidelines, the Authority typically takes the following factors into account when undertaking such a forward-looking competition assessment:[19]

    a. the market shares of individual entities;

    b. competitive constraints arising from existing competitors, potential competitors, barriers to entry and expansion, and the degree of countervailing buyer power; and

    c. evidence on behaviour and pricing.

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16 See Paragraph 92, "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

17 For example, the regulatory framework governing the EU telecommunications sector considers the concept of SMP to be equivalent to that of dominance.

18 See Paragraph 93, "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

19 See Paragraph 93, "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

24. In its competition analysis, the Authority generally follows an approach consistent with the so-called Modified Greenfield approach adopted by the European Commission.[20] That is, it assesses whether a market is competitive in the absence of ex ante regulation imposed as a result of a dominance (or SMP) finding. This is because otherwise, a dominance finding could be circular (i.e., a market could be found to be competitive because of remedies that are in place, either in that market or an upstream market, but which would be removed, if that market was found to be competitive).

25. In reaching its conclusion, the Authority has considered relevant facts and information submitted by Licensed Operators and a residential customer survey recently conducted for the Authority.[21]

26. In the following sections, the Authority defines the relevant markets relating to the provision of mobile termination services (Section 5) and then evaluates whether any Licensed Operator has a dominant position in the relevant wholesale market(s) (Section 6). Before doing so, it provides a summary of its previous Dominance Determinations relating to mobile termination services (section 3) and an overview of the key market developments since these designations were made (section 4).

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[21] TRA Bahrain (May 2018), "*Residential Survey 2017", conducted by Nielson.*

[21] TRA Bahrain (May 2018), "*Residential Survey 2017", conducted by Nielson.*

3 Previous determinations and summary of existing regulation

3.1 2010 and 2013 Dominance Determinations

27. In 2010, the Authority issued a Dominance Determination for mobile termination services for Batelco and Zain.[22] In 2013, the Authority then issued an equivalent Dominance Determination for mobile termination services on VIVA's network.[23]

28. Below, the Authority provides a brief overview of the key findings in these designations, in terms of market definitions and dominance findings.

3.1.1 Product market definition

29. In both designations, the Authority defined a single market for mobile calls, SMS and MMS termination services on each operator's mobile network.

30. The definition started by considering the demand side substitution for call termination at the wholesale level. The Authority commented that the smallest service definition could consist of voice call termination to an individual subscriber of a mobile network. However, the fact that mobile network operators (MNO) have homogenous offers for call termination for all their subscribers led to a wider market definition to cover calls to all numbers on the network.

31. The Authority concluded that, at the wholesale level, there was no effective demand side substitute services to call termination.

32. The Authority then considered if substitution at the retail level would place an indirect constraint on the call termination service (i.e., whether consumers would switch to other retail services following an increase in the price of call termination, such that the increased price of call termination would not be profitable).[24] In examining the prospect of such substitution, the Authority considered three possible substitutes: calls to fixed lines, call to a mobile number on another mobile network and the use of SMS instead of call services. However, it concluded that none of these three services would be likely to place a sufficient indirect constraint on call termination.

33. The Authority reached these conclusions because, in turn, fixed calls lack the immediacy of contact that mobile calls offer, only 11% of mobile users owned more than one SIM (thus meaning it was not possible to call the vast majority of customers on an alternative mobile network)[25] and because SMS communication does not allow real time dialogue.

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22 Telecommunications Regulatory Authority (February 1, 2010) "Dominance Determination in respect of mobile termination services on individual mobile networks" (Ref: MCD/02/10/010)

23 Telecommunications Regulatory Authority (May 16, 2013) "Dominance designation for termination services on VIVA's mobile network" (Ref: MCD 05 13 044)

24 Such an indirect constraint could arise if the increase in call termination prices led to an increase in the retail price for on-net and off-net calls and consequently led to demand side substitution at the retail level to other services, so leading to a reduction in the volume of call termination services sold by the hypothetical monopolist.

25 TRA's Residential Survey 2017.

34. The Authority decided at the time to include SMS and MMS termination services in the same single market as mobile call termination services. This is because:

    a. At a retail level, customers buy these three services as a bundle or cluster of services,

    b. Call and messaging termination services are similar bottlenecks, thus meaning neither service faced sufficient competitive pressure to ensure that, left unregulated, prices would be set at a competitive level.

35. The Authority then examined possible supply-side substitution, with a view to determining if supply side substitution would widen the boundaries of termination markets. However, the Authority concluded at the time that there were no such substitute products. This is because, when faced with an increase in the mobile termination rate of one MNO above the competitive level, no other established or new operator could provide the service. This was due to the fact that only the terminating MNO was able to locate the called party, identify the number and terminate the call to that number.

36. As a final consideration, the Authority reviewed an alternative market definition including termination in the wider cluster of retail mobile services. According to the Authority, this approach would be justified if mobile subscribers bought a bundle of services comprising inbound and outbound services; and if the price of termination within a bundle was constrained because an increase in the price of inbound services would lead customers to switch operator. For this to occur, a sufficient number of subscribers would need to take into account the price of incoming calls when choosing their network (i.e., the amount the consumer pays and the amount that other parties pay to call that consumer).

37. At the time the Authority concluded that due to the Calling Party Pays (CPP) principle applying in Bahrain, there is a disconnect between the party paying for the call and the party that chooses his MNO. The Authority noticed that, while in principle it is possible that the termination rate (and hence the cost of inbound services) could affect a consumer's choice of MNO, in practice, the price of incoming calls is not a determining factor in consumer choice. Indeed, this is evidenced by research conducted in other jurisdictions.[26] That is, consumers are unlikely to switch operator in response to an increase in termination rates and are relatively unconcerned about the cost to others of calling them. As a result, the Authority ruled out this alternative market definition.

3.1.2 Geographic scope of the defined market

38. The Authority considered that the geographic dimension of the markets was national. This was because the Mobile Telecommunication Services licences held by the MNOs cover the entire Kingdom of Bahrain.

3.1.3 Final market definition

39. Based on the above, the Authority defined the following three mobile termination markets:

[26] See references and surveys mentioned in Ofcom, Mobile Termination Rates, Statement, March 2007, page 22.

a. The wholesale market for termination services on Batelco's mobile network;

b. The wholesale market for termination services on Zain's mobile network; and

c. The wholesale market for termination services on VIVA's mobile network.

3.1.4 Competitive assessment

40. The Authority considered that the monopolistic structure of the relevant markets and the high barriers to entry provided a strong presumption that each MNO was dominant in their respective mobile termination markets.

41. The Authority further considered that in the absence of regulation, the potential countervailing buyer power of other MNOs or fixed operators would not be sufficient to prevent the terminating MNO from behaving independently of its competitors, subscribers and users, such that prices would be maintained at a competitive level.

42. Given the above, the Authority concluded that each MNO had a dominant position in providing mobile termination services on its own mobile network.

3.2 Summary of existing regulation of mobile termination services

43. The Telecommunications Law states that a licensed operator holding a dominant position in a relevant market shall be subject to access obligations (article 57).

44. As a result of the Authority's determinations, therefore, mobile termination services supplied by Batelco, Zain and VIVA are regulated services. Specifically, the Authority ensures that mobile termination rates included in Reference Offers for calls originated within the Kingdom of Bahrain are cost-based and are symmetric between licensees.

45. The regulated mobile call termination rates are currently set based on the Authority's 2015 Reference Offer Orders[27].

[27] Telecommunications Regulatory Authority (September 17, 2015) "Reference Offer Orders on Bahrain Telecommunications Company B.S.C., Viva Bahrain B.S.C, and Zain Bahrain B.S.C. setting the regulated call termination rates" (Ref: MCD/09/15/067)

4 Key market developments since 2011

46. Since the previous Dominance Determinations were published in 2010 and 2013, and as set out in the Authority's SMR, a number of developments in the sector have affected the competitive environment in which mobile termination services are provided in the Kingdom of Bahrain. In particular, the Authority notes diverging traffic patterns for mobile call traffic and mobile messaging traffic per user, with call traffic declining by a compound average rate of almost 6% per annum and messaging (SMS/MMS) traffic declining at a compound rate of more than 30% per annum.[28] Linked to this, there has also been significant growth in the uptake of Over-the-Top (OTT) based messaging and calling services.

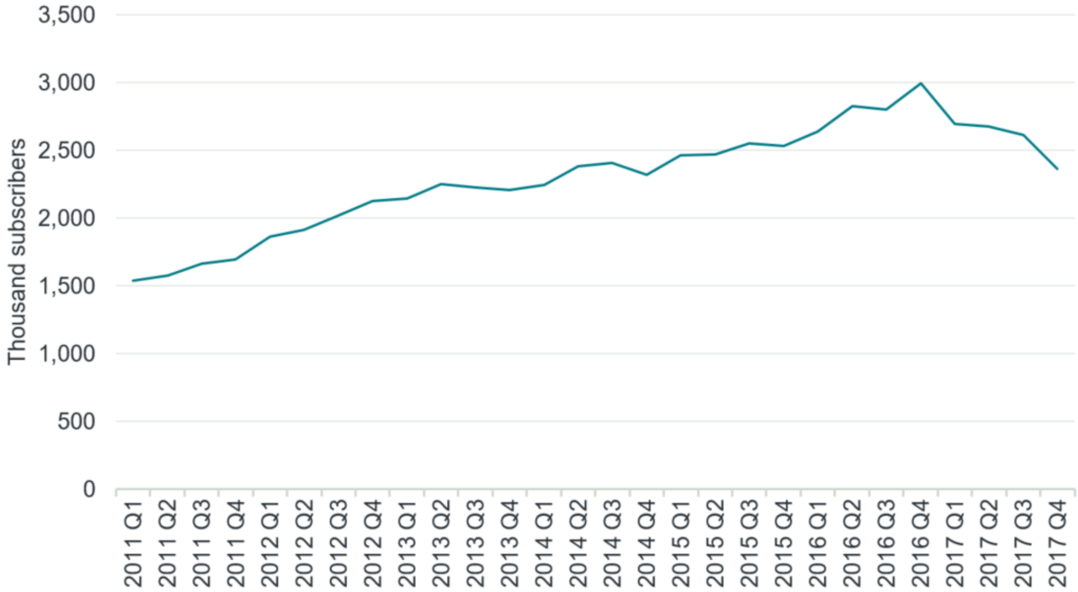
4.1 Developments in average retail mobile call and messaging traffic per user

47. Mobile subscriptions (excluding dedicated mobile broadband connections and hereafter referred to as mobile subscriptions), have been growing at a compound annual growth rate (CAGR) of 8.1% since 2011[29] **[✂]** as observed in Figure 1.

[28] TRA analysis based on operator data.

[29] The TRA measures the number of subscribers as the number of active SIM cards. In the case of prepaid mobile subscribers, this includes only those who, at least once in the last three months, made or received a call or carried out a non-voice activity such as sending or reading an SMS or accessing the Internet.

Figure 1. Number of mobile subscribers



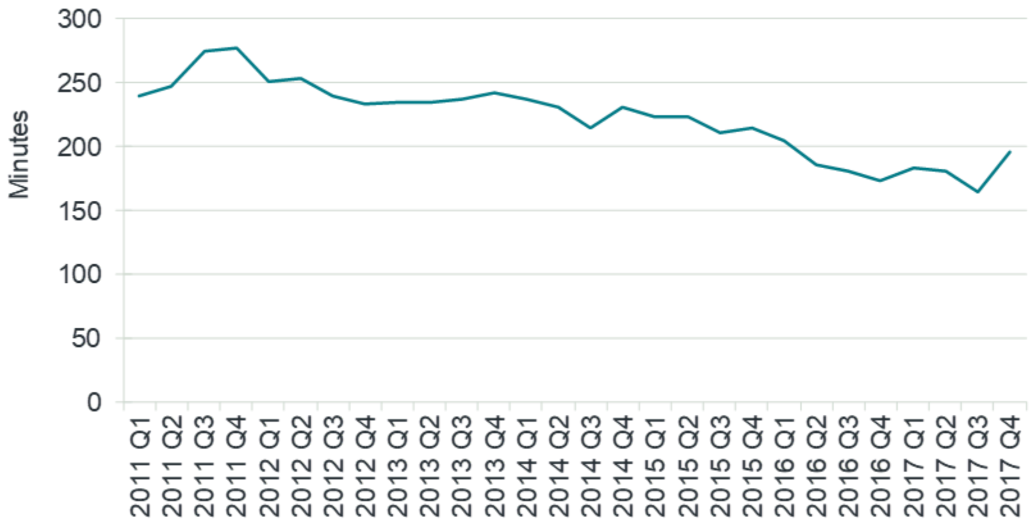
Source: TRA analysis based on operator data

48. Since 2011, average mobile call traffic per user has decreased at an average annual rate of 5.90%. **[✂]**. **[✂].**

49. The Authority notes that in Q4 2017 average mobile call traffic has increased for all MNOs.[30] **[✂].** However, this does not change the overall pattern presented above, as TRA notes some of this apparent increase may also be due to seasonal variation.

[30] This growth is mostly related to mobile-to-mobile (on-net) calls.

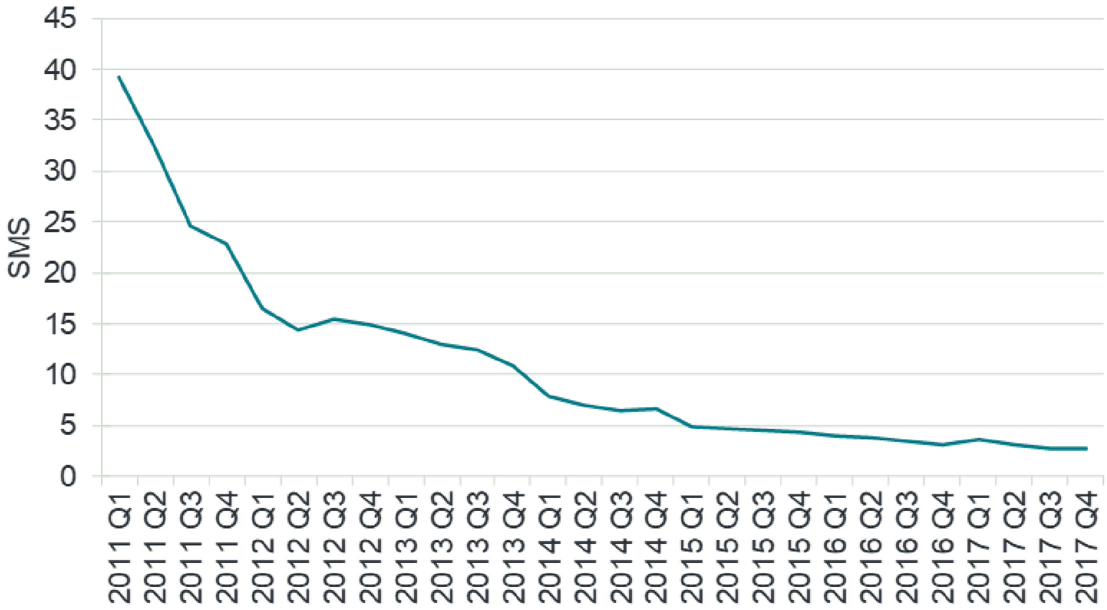
Figure 2. Monthly call traffic per mobile subscriber between Q1 2011 and Q4 2017



Source: TRA analysis based on operator data
Note: Traffic consisting on local mobile calls originated in each licensee's network. The traffic includes mobile to fixed calls.

50. Across all three operators, average monthly SMS and MMS traffic per user has decreased at a more accelerated rate than mobile calls. This is shown in Figure 3 and Figure 4, respectively. Since 2011, the average number of SMS and MMS per user each month has decreased at a compound annual rate of 31.7% and 34.1%, respectively. **[✂]**

Figure 3. Monthly SMS per mobile subscriber between Q1 2011 and Q4 2017



Source: TRA analysis based on operator data.
Note: Traffic consisting on domestic SMS originated in each licensee's network.

Figure 4. Monthly MMS per mobile subscriber between Q1 2011 and Q4 2017

Source: TRA analysis based on operator data.

51. As a result of these trends, the difference in the demand for mobile calling and messaging has widened over the last six years. This is summarized in the following table.

Table 1. Calling and messaging traffic comparison between 2011 and 2017

Average monthly traffic per mobile subscriber	2011	2017	CAGR
Mobile calls minutes per month	261	181	-5.9%
SMS per month	30	3	-31.7%
MMS per month	0.19	0.02	-34.1%

Source: TRA analysis based on operator data.

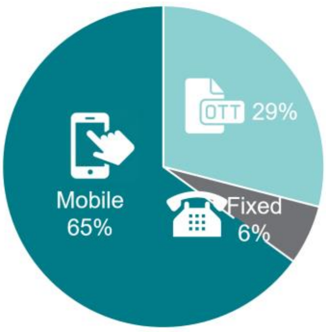
4.2 Developments in take-up of OTT services

52. In 2017, the Authority commissioned Nielsen to conduct a Market Research Survey (Residential Survey) amongst residential consumers with the objective of (i) understanding the demand for and take-up of telecommunications services in Bahrain, (ii) assessing consumer satisfaction levels with the telecommunications services offered, and (iii) looking into the future requirements of telecommunications services.

53. The Residential Survey shows that in 2017, while most local calls were made through mobile phones (65%), the vast majority of the demand for short messaging was met through OTTs (93%). Further, the share of OTT-based calls in total local calls (29% in 2017) has fallen by 5% relative to 2016. In contrast, the OTT share in total messaging services has increased from 88% in 2016 to 93% in 2017.

54. In a similar vein, according to the information submitted by two of the MNOs to the Authority, in the last year OTT traffic for messaging has increased by 66%[31], while that for calls has grown by significantly less - only 41%.

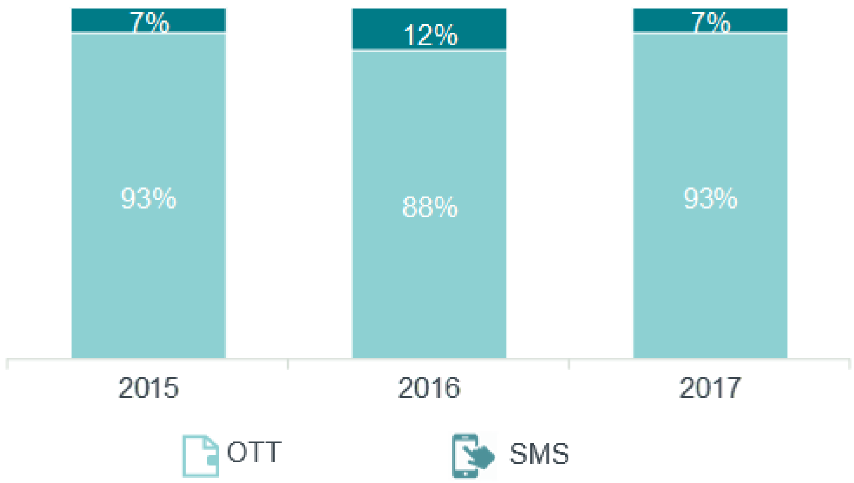
Figure 5. Distribution of local calls made in 2017 by call medium



Source: *TRA Bahrain* Residential *Survey 2017.*
Note: The survey does not provide information on the distribution of local calls by medium for previous years.

[31] Based on the information sent by two of the three MNOs who provided the information separating calls and messaging traffic. The latter traffic includes sending / delivery of rich media content like documents, videos and voice notes, since most OTT apps in the messaging section are capable of sending/receiving this type of content as well as plain text messages.

Figure 6. Distribution of messaging between 2015 and 2017 by sending medium



Source: *TRA Bahrain Residential Survey 2017*

55. The Authority understands that the divergence between the usage of OTTs for domestic mobile calling and mobile messaging is in part explained by OTT messaging services being generally viewed more favourably than traditional SMS / MMS. For example, SMS and MMS provide less functionality than OTT messaging services, which allow an easier transfer of text, photos, documents, video and sound at no marginal cost (beyond the additional data that may be used in transmitting such a message).

4.3 2015 Strategic Market Review

56. The trends set out above were already occurring in 2015. Therefore, in light of the above, the SMR, considered whether the current assessment of market power in the wholesale mobile termination markets continued to remain appropriate and justified.

57. Firstly, however, the SMR set out the rationale for regulating these markets. That is, mobile termination services can raise competition concerns because every terminating network can be considered a separate relevant wholesale market in which the operator of that network is a monopolist.

58. Under a Calling Party Pays principle, licensees can have incentives to raise the charges for terminating calls and messaging in their network. This could then either hamper competition, by the strengthening of network effects (as consumers switch to the largest network, in order to avoid high charges for off-net calls), or reduce welfare as above-cost reflective termination rates would lead to an inefficient cost structure in the sector.

59. Within the SMR, the Authority reached the preliminary conclusion that ex-ante regulation remained appropriate for call termination services on mobile networks.

However, while in principle, competition concerns are the same between call termination and messaging termination, the SMR identified important differences which called into question the appropriateness of maintaining ex ante regulation on messaging termination services. In particular:

a. There is no fixed-to-mobile messaging, and as such messaging termination does not impact the fixed network operators (in contrast to mobile call termination, which creates a net inflow of payments to the mobile sector);

b. Messaging traffic is typically more balanced than voice call traffic because an SMS/MMS is often replied to with an SMS/MMS;

c. As a result of the above two factors, the relative bargaining position of MNOs is typically more balanced for messaging termination services than for voice termination services;

d. There is evidence of substitution between SMS and OTT instant messaging services suggesting that, at some point, there is a level of existing competition, as indicated by rapidly declining SMS volumes.

e. In the EU, 25 out of 28 member states do not impose ex ante regulation on the termination rates for SMS and MMS.[32]

60. Reflecting this, the Authority stated in the SMR that it would undertake a review of wholesale mobile termination markets in due course.

[32] The Authority notes that two EU member states, France and Denmark, have withdrawn their ex ante regulation of SMS termination services since then, i.e., in 2014 and 2015, respectively.

5 Identification of the relevant mobile termination markets

61. In this section the Authority identifies the product and geographic scope of the markets for mobile termination services.

62. In general, the Authority sees merits in considering wholesale mobile call and messaging termination services separately.

63. In previous Dominance Designations the Authority has grouped all mobile termination services together. At the time, the Authority recognised that, at a retail level, SMS and mobile voice calls were not substitutes, and that there were market failures for each of these services. As such, the decision was made to consider these services within a single product market.

64. However, this may no longer be appropriate. This is because of the significant developments in the demand for these services at the retail level and the differences between how messaging and call termination may affect competition between MNOs, and hence the resulting need for continued ex-ante regulation of these services.

65. The Authority further notes that defining separate markets for these services is more consistent with regulatory best practice elsewhere (i.e. across Europe), where regulators typically define markets separately for mobile call termination services and, in the majority of cases, do not impose ex-ante regulation on messaging termination services.

66. In the remainder of this section, the Authority firstly identifies the relevant scope of the wholesale markets for mobile call termination services (Section 5.1) and mobile messaging termination services (Section 5.2), setting out the reasoning behind the Authority's proposal to define separate product markets for mobile call termination and messaging termination services on each individual mobile network.

67. The Authority then applies the three criteria test to both wholesale call and messaging termination markets (Section 5.3).

5.1 Identification of the product and geographic scope of the market for wholesale mobile call termination services

68. Wholesale services form an input to providing retail services. That is, in order to provide retail mobile call and messaging services to end users, licensees need to be able to, amongst others, terminate calls and messages on each licensee's network. As such, wholesale markets should be defined while taking into account the corresponding retail markets, such that any regulatory remedies imposed in the upstream markets facilitate effective competition in the relevant downstream markets. This is particularly important because different retail services may act as an indirect constraint on the pricing of termination services, as discussed in section

3 above. This principle is consistent with the TRA's 2015 SMR and international precedent (i.e., in the EU[33]).

69. As a focal product the Authority has taken voice calls to the receiver's Bahraini mobile number. This includes all calls to Bahraini mobile numbers, regardless of the technology employed to terminate the call to that mobile number by the MNO (e.g. whether on a 2G, 3G or 4G network).

70. The Authority then assesses the potential for demand side substitution by considering whether a hypothetical monopolist supplier of mobile call termination services could impose a small but significant non-transitory increase in price (SSNIP) of 5-10% above the competitive level without losing sales to such a degree as to make this price rise unprofitable. As discussed further in sections 5.1.2 and 5.1.3 below, direct substitution for termination services at the wholesale level is not possible. As such, the Authority focuses on whether there is any indirect substitution, through substitution at the retail level impacting the demand for wholesale call termination.

5.1.1 Indirect constraint from retail services

71. A number of retail services could act as demand side substitutes to off-net mobile calls, including on-net mobile calls, mobile-to-fixed calls, OTT-based calls (such as through Skype, WhatsApp and Viber), and the use of SMS/MMS or other OTT-based messaging services. Below the Authority considers each service in turn.

<u>On-net mobile calls</u>

72. Whilst on-net and off-net calls share the same user experience, in order to substitute an off-net call with an on-net call the calling and/or receiving party must have active SIMs from all three MNOs. Whilst multiple SIMs are not uncommon in Bahrain, the calling and receiving party would also have to carry three mobile phones with them and there would be incremental efforts involved to ensure that the relevant call is an on-net call. In the Authority's view, this limits the possible levels of demand side substitution between these two call types in response to an increase in the price of call termination (and hence off-net calls).

<u>Mobile-to-fixed calls</u>

73. Whilst both mobile and fixed services are widely available and used in Bahrain, there are prevailing differences in the product characteristics of these services which are likely to limit the extent to which a call to a fixed line is a substitute for a call to a mobile connection. In particular, fixed voice services do not offer 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. As such, even if the calling party is aware of the recipient party's fixed geographic number, mobile-to-mobile calls offer a much greater chance of immediate contact and potentially offer greater privacy. As such, it seems unlikely that mobile-to-fixed calls would be demand side substitutes for mobile-to-mobile calls.

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[33] 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

SMS/MMS

74. There is limited demand side substitution between calls and SMS / MMS:

    a. For the end user, a mobile call entails instant, two-way communication. By contrast, SMS/MMS[34] do not require instantaneous attention by the receiver: rather, the recipient is free to choose when to read the message. Indeed, the sender can never be certain that the message will reach the recipient.

    b. A SMS/MMS can be sent even if the sender knows that the recipient will not read or respond immediately.

    c. SMS/MMS are more discreet and can be utilized in situations where a call would not be considered as an alternative. Conversely, there are situations in which sending a SMS/MMS may be considered much too slow and cumbersome compared to a call.

OTT-based calls

75. As recognised in Section 4, the take-up and usage of OTT-based call services has increased significantly in Bahrain over recent years. Further, several of the commonly cited barriers to adoption (i.e. the need for both parties to own a smartphone and have downloaded the relevant OTT application) are diminishing. For example, smartphone penetration in Bahrain has reached close to 100% of all households in 2017, according to the latest Residential Survey).

76. However, whilst the demand for OTT-based call services has increased in recent years, it is not clear that these yet act as a sufficiently effective substitute for local mobile calls to be included in the same market as mobile voice call termination. For instance, in 2017, only 29% of local calls were made through OTT applications, compared to 65% using mobile voice (with the OTT share falling by 5% relative to 2016).[35]

77. Further, for OTT-based calls or any of the other potential substitutes to act as a (indirect) competitive constraint on mobile call termination rates, a sufficient number of the customers of the originating provider must respond to the increase in retail call prices that would arise from an increase in termination rates by using the alternative service to call the MNO's customers, such that the increase in termination rates would not be profitable.

78. The Authority considers this is unlikely to be the case because of the following:

    a. Due to the increasing trend towards bundled mobile service offerings (including monthly call, SMS and data allowances), consumers may have limited awareness of changes in the retail price for individual components. In addition, the effective unit price for an incremental call is zero as long as the customer remains within its allowance.

    b. Mobile termination rates make up only one part of the overall, end-to-end cost of off-net mobile calls (i.e., the current mobile termination rate of 2.4 Fils per minute constitutes 16% of the domestic mobile call charge of 15 Fils per

[34] The functionality of MMS is very similar to SMS. However, MMS has some additional functionalities (pictures, sound and video).

[35] *TRA Bahrain Residential Survey 2017.*

minute). As such, this dilutes the pass-through of the increase in the mobile termination rate to the retail level.

79. Based on the evidence and reasoning set out above, the Authority provisionally concludes that there are no sufficiently close substitutes at the retail level to broaden the market beyond mobile call termination on individual networks.

5.1.2 Demand side substitution at the wholesale level

80. There are unlikely to be any effective demand side substitutes for call termination on individual mobile networks at the wholesale level. In particular,

    a. Termination on a fixed network would not constitute an effective substitute for termination on a given mobile network as, by definition, it cannot be used to terminate the call on the mobile network. Given the requirement for "any-to-any" connectivity, a service provider faced with a SSNIP in the price for terminating calls on a given network would have no choice but to continue to send calls to that network for termination.[36]

    b. Further, the Authority considers it unlikely that OTT bypass would occur for terminating domestic mobile calls:

        i. OTT bypass is a mechanism whereby OTT application providers terminate fixed or mobile originated telephone calls through an OTT application. Therefore, by this mechanism, OTT application providers substitute MNOs in providing the service of terminating calls on a mobile phone number. OTT bypass requires the originating provider, or transit provider, to enter a commercial agreement with the "bypassing" OTT provider.[37]

        ii. It seems unlikely for such bypassing to occur for termination of domestic mobile calls in Bahrain, as in other jurisdictions like the UK,[38] as these providers would need to enter into commercial agreements with Bahraini MNOs, who have limited incentive to engage with them. As Ofcom claims, if one MNO engaged in such an agreement this could lead to retaliation from other MNOs.

5.1.3 Supply side substitution at the wholesale level

81. There is no supply side substitution for termination services on an individual network. A service provider who has originated a call has no technical alternative but to terminate the call on the network of the service provider to which the called party is a customer. This means an alternative provider cannot enter that market

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[36] Licensees are required to interconnect with each other (either directly or indirectly) so that customers on one licensee's network can make and receive communications from customers on another licensee's network. As such, a licensee is not able to decide to not interconnect with another licensee, even if faced with an increase in call termination rates.

[37] See: Ofcom (27 June 2017) Mobile call termination market review 2018-21. Available online at: https://www.ofcom.org.uk/__data/assets/pdf_file/0011/103340/mobile-call-termination-consultation.pdf

to also offer termination services to the particular downstream customer, without taking over the customer relationship.

5.1.4 Geographic scope

82. In line with the relevant retail downstream market and its 2010 and 2013 Dominance Determinations, the Authority remains of the view that the mobile call termination markets are national in scope.

    a. Mobile call termination services are supplied in Bahrain by Batelco, Zain, and VIVA. Each of these MNOs holds an Individual Mobile Telecommunications Services Licence, the geographic scope of which is national.

    b. The competitive conditions in the supply of mobile services are homogenous throughout Bahrain, with all three MNOs having deployed mobile networks with nationwide coverage

5.1.5 Conclusion on the product and geographic scope

83. The Authority's preliminary view is that there is a wholesale market for call termination services on individual mobile networks. Wholesale mobile call termination services cover the termination of all calls on a service provider's network that have been conveyed by another licensed operator in Bahrain, irrespective of the technology used to deliver this service.

84. The relevant geographic dimension for the supply of mobile call termination services on individual mobile networks is the national level.

Q1. Do you agree with the Authority's preliminary definition of the market for mobile call termination services? If not, please explain why.

5.2 Identification of the product and geographic scope of the market for wholesale mobile messaging termination services

85. As a starting point in defining this market the Authority has taken as its focal product SMS/MMS to any Bahraini mobile number. This includes all SMS/MMS to Bahraini mobile numbers, regardless of the technology employed to terminate the SMS/MMS to that mobile number by the MNO (e.g. on a 2G, 3G or 4G network).

86. The Authority then assesses the potential for demand side substitution by considering whether a hypothetical monopolist supplier of mobile messaging termination services could impose a small but significant non-transitory increase in price (SSNIP) of 5-10% above the competitive level, without losing sales to such a degree as to make this price rise unprofitable. In line with mobile call termination services (see sections 5.1.2 and 5.1.3 above), direct substitution for messaging termination services at the wholesale level is not possible.

87. The Authority therefore also takes into consideration the potential impact of indirect constraints on the definition of the wholesale market. These constraints relate to behaviour in the provision of related retail services, because the demand

for wholesale services is derived from the provision of the related retail services. As such, effective or potential competitive pressure in the retail market can place indirect constraints on wholesale prices for wholesale mobile messaging termination.

88. Indeed, and as set out above in Section 2.1 even where retail services are not deemed to be an adequate demand side substitute to broaden the definition of the wholesale market, they can still place a competitive constraint on the wholesale termination service (i.e. by reducing the ability of the MNO to abuse its market power in that market). The Authority considers this to be the case for OTT-based messaging services, in the context of the market for wholesale mobile messaging termination services, as set out in more detail below.

5.2.1 Indirect constraint on messaging termination from retail services

89. A number of retail services could act as demand side substitutes to mobile messages, including mobile-to-mobile calls, mobile-to-fixed calls, and OTT-based messaging. For similar reasons as set out in Section 5.1 above and explained in the 2010 Dominance Determination, the Authority is of the view that mobile calls and mobile-to-fixed calls do not represent effective demand side substitutes for SMS/MMS. For instance, voice calls are less discrete than messages and might not be used in all situations that SMS/MMS are employed (e.g. in any circumstance where a consumer wants to convey a message quietly, such as a meeting or conference, or when noise might hinder parties listening to each other, such as in a crowded place or a building site). As such, these services are unlikely to place an indirect constraint on mobile messaging termination services.

90. However, the Authority is of the preliminary view that OTT-based messaging services are likely to place at least some competitive pressure on retail SMS and MMS. Evidence for this comes from the fact that:

    a. OTT-based messaging has been growing at a high pace while SMS/MMS usage has been declining. For instance, between 2016 and 2017, OTT messaging traffic grew by 66%. This growth, and the observed decline in SMS and MMS traffic per user (discussed in section 4.2) has resulted in OTT-based messaging services representing the vast majority (93%) of total messaging services consumed in Bahrain in 2017.

    b. OTT-based messaging services offer more functionality than SMS/MMS (such as the ability to add voice and video messages). In addition, in some instances (such as when a consumer sends a text message from an iPhone), a consumer may not always know whether a message is sent as a SMS message or as data package (iMessage). This is because the mobile phone converts the message automatically, depending on whether the recipient is also on an iPhone.

91. It is clear from this that the market for SMS/MMS at the retail level is declining. However, this is not the same as saying OTT services are in the same economic market and that, faced with a SSNIP in messaging termination prices, the consequent pass-through to retail SMS/MMS prices would lead to sufficient consumers switching some or all of their demand to OTT, such that the price increase would be unprofitable for the hypothetical monopolist. For example:

a. There is no evidence that the demand trends set out above have been driven by changes in the relative prices of SMS/MMS and OTT;

b. Businesses who use Bulk SMS are likely to continue to do so;

c. Remaining voice-centric customers may continue to use SMS, if, for example, they do not have smart phones or at least, even if they do have a smart phone, they may not actively choose to switch to using an OTT (even if some short messages are automatically sent as data packets); and

d. Given the pricing of SMS, a SSNIP in the wholesale termination rates is likely to have very little impact on retail prices and the total amounts consumers pay for mobile services, so reducing the benefits from switching.

92. Given this, and despite the growth in OTT, the Authority provisionally concludes that there is not sufficient evidence to broaden the market beyond mobile messaging services. However, even though OTT-based messaging services are not deemed to be an adequate demand side substitute to include these within the termination market, the Authority recognises that these services still place some competitive pressure on SMS/MMS services at a retail level. The impact of this on the continued need for regulation of messaging termination services is further discussed in Section 5.4, below.

5.2.2 Demand side substitution at the wholesale level

93. There are unlikely to be any effective demand side substitutes for mobile messaging termination on individual mobile networks.

a. Given the requirement for "any-to-any" connectivity, a service provider faced with a SSNIP in the price for terminating messages on a given network would have no choice but to continue to send SMS/MMS to that network for termination.[39]

b. Further, for the same reasons as set out in section 5.1.2 above, the Authority considers it unlikely that OTT bypass would occur in Bahrain for terminating domestic mobile calls..

5.2.3 Supply side substitution at the wholesale level

94. There is no supply side substitution for termination services on an individual network. A service provider who has originated a SMS/MMS has no technical alternative but to terminate the message on the network of the service provider to which the receiving party is a customer. This means an alternative provider cannot enter that market to also offer termination services to the particular downstream customer, without taking over the customer relationship.

5.2.4 Geographic scope

95. In line with the mobile call termination market and its 2010 and 2013 Dominance Determinations, the Authority remains of the view that the mobile messaging termination markets are national in scope.

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[39] See the explanation set out in paragraph 80 for a fuller discussion of this point.

a. All three MNOs supplying mobile messaging termination services in Bahrain hold an Individual Mobile Telecommunications Services Licence, the geographic scope of which is national.

b. The competitive conditions in the supply of mobile services are homogenous throughout Bahrain, with all three MNOs having deployed mobile networks with nationwide coverage.

5.2.5 Conclusion on the product and geographic scope

96. The Authority's preliminary view is that there is a wholesale market for mobile messaging termination services on individual mobile networks. Wholesale mobile messaging termination services cover the termination of SMS and MMS on a service provider's network that have been conveyed by another licensed operator in Bahrain, irrespective of the technology used to deliver this service.

97. The relevant geographic dimension for the supply of mobile messaging termination services on individual mobile networks is the national level.

Q2. Do you agree with the Authority's preliminary definition of the market for mobile messaging termination?

5.3 Applying the three criteria test to the mobile call termination service market

98. Having identified the product and geographic scope of the markets for mobile call termination services, the Authority assesses below whether these markets remain susceptible to ex ante regulation. This is undertaken based on the three criteria test which identifies those markets where prospective competition is unlikely to emerge and thus ex ante regulation could remain necessary. It does this by considering the following three criteria:

a. Whether there is evidence in the market of high and non-transitory barriers to entry;

b. Whether there is evidence that the market does not tend towards effective competition within the relevant time horizon; and

c. Whether competition law (or, in the Authority's case, its powers under Article 65 of the Telecommunications Law) are, by themselves, adequate to address the market failure(s) concerned.

5.3.1 Presence of high and non-transitory barriers to entry

99. Given the current state of the market, barriers to entry are high as:

a. Each MNO terminates calls to its retail customers, and so no new entrant, nor any existing rival provider, has the ability to offer termination for calls to the customers of that MNO provider without its consent.

b. OTT bypass, which could present a form of market entry does not, in the Authority's view and for the reasons presented in Section 5.1.2, represent a relevant competitive constraint.

100. 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 market definitions (since not being considered to be adequate substitutes for local mobile voice services). Given this, OTT-based services also do not form part of the mobile call termination market.

101. Given the above, there is no prospect of new entry into any of the wholesale mobile call termination markets, as each market displays high and non-transitory entry barriers.

5.3.2 A market structure tending towards effective competition within a relevant time horizon

102. In the Authority's view, there is no evidence that the market for mobile call termination services will tend to effective competition in the absence of ex ante regulation.

103. Firstly, as discussed in the previous sub-section, the nature of this wholesale service makes barriers to entry high and non-transitory.

104. Secondly, the payment regime in place, CPP, does not provide MNOs with incentives to lower their termination charges. On the one hand, this regime creates a disconnection between the party paying for calls and the receiver, who chooses the MNO. As a result, MNOs might have only very limited ability to attract subscribers to their network by lowering their termination rate.

105. In fact, MNOs might even have the incentive to raise their termination charges in an attempt to raise their competitors' retail prices for calls (at least, off-net calling prices) and promote switching to their own network.

106. Finally, there is limited evidence that currently, at the retail level, OTT based calling services constitute a good substitute for traditional mobile local call services.

a. Whilst there are no notable differences in the call quality between mobile calls and OTT calls, the Residential Survey shows that while mobile phone subscribers report 84% satisfaction with the ability to make calls without dropping, the satisfaction with OTT call services is lower at 76%. Making a call from an OTT service may also not be as convenient as a mobile voice call. This is because users may have to open the OTT-application before making a call, whilst applications will not always synchronise well with the contact details on the mobile phone. There are also functional differences between OTT calls and mobile voice calls, such as the fact that the calling party needs to know whether the receiver is able to receive calls on a given OTT platform and the fact that the user cannot seamlessly leave a voicemail on OTT applications if a call is not answered.

b. Lastly, the cost saving from using OTT rather than mobile voice for local calls is limited. As such, this reduces end users incentives to switch to OTT for local calls, given the trade-off with quality and convenience, etc. Indeed, according to the Residential Survey 65% of local calls are made through mobile phones, while only 29% are made through the use of OTT applications.

107. Given this, OTT based calling services are also unlikely to impose an indirect constraint on MNO's on mobile call termination services sufficient for the Authority to conclude that this could have an effect synonymous with the market tending towards competition.

5.3.3 The application of competition law alone or the Authority's powers under Article 65 of the Telecoms Law would not adequately address the market failure(s) concerned

108. Ex post competition investigations will not be sufficient to investigate and remedy potential anti-competitive behaviour in this market. The analysis of the first two criteria shows that there are a number of structural conditions in the market which indicates that the wholesale market for mobile call termination will be suitable for ex ante regulation.

109. Given that each MNO controls termination access to its own customers, ex ante remedies are likely to be required to ensure that each MNO offers call termination services at reasonable price and non-price conditions. This is because, without such ex ante regulation, including of prices, MNOs may have the incentive to restrict access to their network, or set prices above the competitive level. However, the design and implementation of such remedies – that can only be practically administered on an ex- ante basis - would be lengthy.

110. Further, absent ex-ante regulation it may also be the case that MNOs will coordinate in setting high termination charges as a tool for collusion to set higher retail prices. [40] The academic literature shows that this ability depends on the pricing schemes that prevail in the market and the service substitutability.

5.3.4 Conclusion

111. Based on the above, the Authority preliminarily concludes that the wholesale market for call termination services on individual mobile networks 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 concentrated and there is no competitive pressure on prices. Lastly, competition law or the Authority's powers under Article 65 of the Telecoms Law may not be sufficient in this market to remedy the present competition concerns.

112. As such, these markets will be considered further in Section 6 below.

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[40] See: Armstrong, M. (May, 1998) 'Network Interconnection in Telecommunications' *The Economic Journal,* Vol. 108, No. 448. pp. 545-564; Laffont, J.J.; Rey, P.; Tirole, J. (Spring, 1998) 'Network Competition: I. Overview and Non-discriminatory Pricing'. *The RAND Journal of Economics*, Vol. 29, No. 1, pp. 1-37 and Laffont, J.J.; Rey, P.; Tirole, J. (Spring, 1998) 'Network Competition: II. Price Discrimination' *The RAND Journal of Economics*, Vol. 29, No. 1, pp. 38-56.

Q3. Do you agree with the Authority's preliminary decision that the markets for mobile call termination services remain susceptible to ex ante regulation? If not, please explain why.

5.4 Applying the three criteria test to the mobile messaging termination service markets

113. In line with section 5.4, the Authority assesses below whether the market for mobile messaging termination remains susceptible to ex ante regulation. This is again undertaken based on the three criteria test.

5.4.1 Presence of high and non - transitory barriers to entry,

114. In line with the discussion in section 5.4.1 above, there is no prospect of new entry into any of the wholesale mobile messaging termination markets, as each market displays a high entry barrier due to the non-replicable nature of the termination service.

115. In particular, each MNO terminates SMS/MMS to its own retail customers and no new entrant nor existing MNO is able to offer termination to that MNO's subscribers without its consent. As a result, the Authority considers that entry barriers to this market are high and non-transitory.

5.4.2 A market structure tending towards effective competition within a relevant time horizon

116. Despite the monopolist structure of the mobile messaging termination market, the Authority considers the MNOs do face a strong potential competitive constraint at the retail level from OTT messaging service providers. This is likely to limit the MNOs ability to profitably set messaging termination prices above competitive levels.

117. As set out above, the Authority does not believe it is reasonable at this time to broaden the messaging termination service markets to include OTT services. This is because, in particular, the Authority does not have evidence on the likely reaction of consumers to changes in SMS / MMS termination prices and indeed, has reason to believe that substitution as a result of changes in relative prices may be limited (notwithstanding the broader demand trends present in the market). However, despite this, the Authority recognises that there is evidence to show that many consumers do consider that OTT-based messaging is a reasonable alternative to SMS/MMS.

    a. As discussed in section 4.1, there has been a significant reduction in SMS/MMS traffic in Bahrain over recent years, whilst OTT-based messaging traffic has increased rapidly. As stated in section 4 above, the most recent

Residential survey shows that since 2015, at least 88% of messaging in Bahrain has been done through OTT.[41]

b. As discussed in section 5.2.1, OTT messaging services offer more functionality than SMS/MMS and for some text messages, consumer may not always know whether the message is sent as SMS or as data package.

c. The 2017 Nielson survey also shows that mobile phone subscribers report high satisfaction with OTT based messaging services, suggesting that there are no (or less) quality differences to SMS/MMS.

118. In addition, the declining importance of SMS and MMS reduces the incentives for each MNO to increase charges for terminating messages on its network in an attempt to weaken its competitors' position in the retail market.

119. Therefore, taking into account all of the above factors, the Authority considers that the impact of OTT at the retail level is likely to be such that it will, over time, increasingly constrain the ability of providers in the mobile messaging service termination markets to act independently. The Authority considers that this is synonymous with the market being of a structure which is tending towards competition over the period of the review. As such, the Authority does not believe that this part of the three criteria test is met. Nevertheless, for completeness, the Authority now also examines the final of the three criteria.

5.4.3 The application of competition law alone or the Authority's powers under Article 65 of the Telecoms Law would adequately address the market failure(s) concerned

120. The analysis of the former criterion suggests that MNOs are facing potential competitive pressures from OTT-based messaging to not raise SMS/ MMS termination charges above competitive levels. Moreover, the declining importance of SMS/MMS reduces incentives for each MNO to increase charges for terminating messages on its network. In the view of the Authority, these competitive pressures and the reduced incentives to raise termination charges, together with the application of the ex post regime set out in Article 65 of the Law will be sufficient to ensure that each MNO offers SMS/MMS termination services at reasonable price and non-price conditions. This does not mean that the Authority can guarantee that termination rates for messaging services will not increase – indeed, it is possible that the licensees could respond to this measure by increasing SMS/MMS termination prices, on the basis that there may be a small group of consumers who are less inclined to switch to OTT services and will, therefore continue to use SMS (and possibly MMS). However, the Authority considers that the impact of any such increases on retail consumers will be limited. This is because many mobile packages are sold as bundles with (for post-pay customers at least) zero incremental cost for mobile messaging. Despite this, the Authority will continue to monitor the impact of deregulating SMS termination services on termination rates and retail customers going forward. Given the decline in demand for mobile messaging services in recent years (as discussed in Section), which the Authority considers likely to continue going forward, the

[41] TRA Bahrain Residential Survey 2017

declining importance and impact of mobile termination services in Bahrain do not appear to justify the continued ex ante regulatory oversight of these services (i.e., any potential benefits from a continued ex ante regulation is unlikely to exceed the cost of such regulation).

5.4.4 Conclusion

121. Based on the above, the Authority preliminary concludes that the wholesale market for messaging termination services on individual mobile networks should no longer be susceptible to ex ante regulation. As such, this market will not be considered further in this Dominance Determination.

122. However, the Authority will closely monitor the impact of deregulating SMS termination rates on the relevant wholesale and retail markets. If it finds that the deregulation of SMS termination services adversely impacts Licensed Operators or end users in these markets, the Authority will act immediately, including, if necessary, re-introducing ex-ante regulation of SMS termination services.

Q4. Do you agree with the Authority's preliminary decision that the markets for mobile messaging termination services do not remain susceptible to ex ante regulation? If not, please explain why.

Q5. Please set out what you consider to be the risks of this draft determination and how any risks, particularly around the risk of potential price rises for SMS/MMS termination services and retail services could be mitigated.

6 Assessment of whether there is dominance in the supply of mobile call termination services

123. The Telecommunications Law defines a dominant position as a position of economic power that enables an operator to prevent the existence and continuation of effective competition in the relevant market through the ability of the operator to act independently, to a material extent, of competitors, subscribers and users.

124. In its Competition Guidelines,[42] the Authority sets out the relevant considerations for assessing market power in a relevant market. The Authority noted that in undertaking an ex ante assessment of market power, the aim is to understand how competitive the market is currently and whether this is likely to persist within a reasonable timeframe. Specifically in relation to dominance, the Competition Guidelines state that although the Telecommunications Law does not refer to a market share threshold for dominance, European case law has established a presumption of dominance where an operator has a market share in excess of 50%.[43]

125. As noted in the Competition Guidelines, market power generally derives from a combination of several factors which, taken in isolation, may not necessarily be determinative. The main factors that the Authority considers when assessing market power are as follows:[44]

a. the market shares of individual entities;

b. other competitive constraints, including those from existing and potential competitors, barriers to entry and expansion, and the degree of countervailing buyer power; and

c. evidence on behaviour and performance.

126. For the purposes of this draft Dominance Determination, the Authority has defined a wholesale market for the supply of call termination services on individual mobile networks in Bahrain. The Authority is therefore interested in whether each MNO has a dominant position in their relevant market. In undertaking such an assessment, the Authority considers the above factors.

6.1 Market shares and existing competition

127. In the wholesale markets defined above, each MNO owns and controls the key physical network necessary to deliver termination services for calls that terminate on its mobile network. As such it has a monopoly over the supply of call termination services on its network. The operator of the calling party has no option other than to purchase the call termination service from the relevant MNO. Each MNO

[42] The Authority “Competition Guidelines”, 18 February 2010, Section 3.

[43] ibid, paragraph 96

[44] ibid, Section 3.2

therefore has a market share of 100% in respect of wholesale call termination services on its network. A market share of 100% creates a strong presumption of dominance.

128. All the providers of voice call termination on mobile networks have been subject to price controls. Price developments have thus largely been dictated by these price controls, meaning this information is of limited value for the assessment of market conditions. However, the Authority is not aware of there being any voluntary decrease in mobile call termination rates by any MNO in Bahrain in recent years (i.e. they have remained at the maximum level determined by the Authority). As such, this does not suggest that there has been sufficient competitive pressure on the providers to lead to them reducing rates – rather, mobile termination rates have been maintained at the price set by the Authority.

6.2 Barriers to entry and expansion

129. In general, high barriers to entry support a finding of dominance in each of the wholesale mobile call termination markets.

130. Barriers to entry are high as each MNO terminates calls to its retail customers, and so no new entrant, nor any existing rival provider, has the ability to offer termination for calls to the customers of that MNO provider without its consent.

131. OTT bypass, which could present a form of market entry, is not likely to occur for terminating domestic mobile calls in Bahrain, in the Authority's view, for the arguments presented in sections 5.1.2, constitute a competitive constraint. In particular, this is because bypassing requires OTT providers to engage in commercial agreements with MNOs who have no incentive to engage with them. As such, the Authority concludes there is no prospect of new entry into any of the wholesale mobile call termination markets, as each market displays high barriers to entry.

6.3 Countervailing buyer power (CBP)

132. CBP refers to the relative strength of the buyer in negotiations with potential sellers. CBP could thus limit the ability for any MNO to act, to an appreciable extent, independently and set prices above the competitive level.

133. As noted in the 2010 Dominance determination, for CBP to be effective, buyers must have an incentive and be able to exert a sufficiently strong influence on the seller, preventing the latter from behaving independently of its competitors and customers to an appreciable extent. In doing so, countervailing buyer power can constrain prices to a level consistent with effective competition, and can in principle benefit the purchasers of termination services and ultimately retail customers.

134. The conditions conducive to countervailing buyer power include the following:

   a. Any one buyer's share of purchases constituting a sizeable proportion of the MNO's total output;

b. A single or a few buyers' shares of purchases constituting a sizeable proportion of the MNO's total cost; and

c. The buyer in question being able to switch between MNOs easily (or, indeed, self-provide the services), despite the supplier having invested in assets specific to that buyer.

135. The Authority is of the view that the above conditions generally do not apply to mobile call termination services. Each MNO has an effective monopoly on the supply of call termination services on its network, and so another network operator wishing to establish a communication with a subscriber on the MNO's network has no alternative to purchasing a termination service from that MNO.

136. If the purchaser of call termination services is an important customer for the MNO, it is conceivable that the purchaser could exercise CBP power with which to constrain the terminating MNO, even in the absence of alternative sources of supply. The originating operator could, for example, threaten not to purchase termination services from the MNO in the event that the MNO attempted to increase its mobile call termination rate. However, the option of not interconnecting is precluded by Article 57 of the Telecommunications Law, which gives public telecommunications operators the right to interconnect with any other public telecommunications operator. As such, any MNO seeking to increase its mobile call termination rate could do so without the risk of being 'disconnected' by other network operators.

137. It is possible that the purchaser of termination services from a MNO could possess some CBP if it also supplied termination services (or other wholesale services) to that MNO, and could therefore threaten to retaliate by increasing its own termination rates. However, both mobile and fixed call termination rates are subject to regulation by the Authority. Such regulation effectively removes the ability of any operator to respond to any increase in the mobile termination rate by a retaliatory increase in their own termination rate.

138. The Authority therefore considers that the MNOs face little or no constraint from CBP when setting their mobile call termination rates, in absence of regulation.

139. The above is also in line with conclusions reached by other regulatory and competition authorities.[45]

6.4 Behaviour and performance

140. In the absence of ex ante regulation, the above assessment indicates that there are few or no constraints on MNOs in respect of the wholesale termination rates they charges for call termination services on their mobile network.

[45] For example, in a 2009 paper of termination rates, the EC noted that national regulators have typically found constraints such as CBP to be weak and insufficient to offset the market power of terminating network operators. See EC "Commission Staff Working Document accompanying the Commission Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU", 7 May 2009

141. As noted in the 2013 Dominance Determination, there is evidence from Bahrain and internationally that unregulated mobile termination rates have exceeded regulated rates.

6.5 Preliminary conclusion on dominance

142. Given the above evidence, the Authority preliminarily concludes that Batelco, VIVA and Zain are dominant in the market for wholesale call termination services on their respective networks.

Q6. Do you agree with the Authority's view that that each MNO is dominant in the wholesale market for mobile call termination services on its respective network? If not, please explain why.

Annex 2 - List of questions

Q1. *Do you agree with the Authority's preliminary definition of the market for mobile call termination services? If not, please explain why.*

Q2. *Do you agree with the Authority's preliminary definition of the market for mobile messaging termination?*

Q3. *Do you agree with the Authority's preliminary decision that the markets for mobile call termination services remain susceptible to ex ante regulation? If not, please explain why.*

Q4. *Do you agree with the Authority's preliminary decision that the markets for mobile messaging termination services do not remain susceptible to ex ante regulation? If not, please explain why.*

Q5. *Please set out what you consider to be the risks of this draft decision and how any risks, particularly around the risk of potential price rises for SMS/MMS termination services and retail services could be mitigated.*

Q6. *Do you agree with the Authority's view that that each MNO is dominant in the wholesale market for mobile call termination services on its respective network? If not, please explain why.*