



هيئة تنظيم الاتصالات
Telecommunications Regulatory Authority
Kingdom of Bahrain - مملكة البحرين

Market and Competition Review of the Retail Markets for Access to Call Services including Domestic Calls from a Fixed Location

Draft Determination

15 December 2015

Ref: MCD/12/15/097

Public Version

(Confidential information has been replaced by [X])

Purpose: To define the relevant retail markets for provision of access to call services and domestic calls made from a fixed location in the Kingdom of Bahrain and to determine whether any Licensed Operator holds Significant Market Power in those markets.

Market and Competition Review of the Retail Markets for Access to Call Services including Domestic Calls from a Fixed Location

Instructions for submitting a response

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, **28 January 2016**.

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

Director, Market and Competition Department
<mailto:MCD@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 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 Authority may publish or refrain from publishing any document or submission at its sole discretion.

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.

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Instructions for submitting a response

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.

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DRAFT DETERMINATION OF SIGNIFICANT MARKET POWER

DRAFT DETERMINATION OF SIGNIFICANT MARKET POWER

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, ALL ADMISSIBLE EVIDENCE AND THE SUBMISSIONS MADE BY INTERESTED PARTIES, THE TELECOMMUNICATIONS REGULATORY AUTHORITY OF THE KINGDOM OF BAHRAIN HEREBY MAKES THE FOLLOWING DETERMINATION:

1. For the reasons set out in the Annex to this Determination, the Telecommunications Regulatory Authority of the Kingdom of Bahrain (the 'Authority') has identified the markets to be the retail market for **mass-market access to call services including domestic calls from a fixed location**.
2. Furthermore, the Authority has identified and determined that no licensee has a position of Significant Market Power in the retail market for **mass-market access to call services including domestic calls from a fixed location**.
3. 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 (ref. MCD/02/10/019), 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 Significant Market Power.
4. The Authority will continue to monitor developments in this market and may conduct a review of the market at some future time, with a view to determining if any Licensee holds a position of Significant Market Power, should the Authority determine that changes in market conditions warrant it. Such a review may conclude with a Determination that supersedes this present Determination.
5. This Determination supersedes the Determination of Significant Market Power in certain relevant retail markets issued by the Authority on 3 June 2008 only to the extent that that Determination relates to the **retail market for mass-market access to call services including domestic calls from a fixed location**.
6. This Determination shall come into effect from the date of its issuance.

**Market and Competition Review of the Retail Markets for Access to Call Services
including Domestic Calls from a Fixed Location**

DRAFT DETERMINATION OF SIGNIFICANT MARKET POWER

Signed on

[●]

Mohamed Bubashait

General Director

Telecommunication Regulatory Authority

Manama, Kingdom of Bahrain

**Market and Competition Review of the Retail Markets for Access to Call Services
including Domestic Calls from a Fixed Location**

DRAFT DETERMINATION OF SIGNIFICANT MARKET POWER

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1. For the reasons set out in the Annex to this Determination, the Telecommunications Regulatory Authority of the Kingdom of Bahrain (the 'Authority') has identified the relevant market to be the **retail market for premium access to call services including domestic calls from a fixed location**.
2. Furthermore, the Authority has identified and determined that Batelco has a position of Significant Market Power in the **retail market for premium access to call services including domestic calls made from a fixed location**.
3. 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 (ref. MCD/02/10/019), 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 Significant Market Power.
4. This Determination supersedes the Determination of Significant Market Power in certain relevant retail markets issued by the Authority on 3 June 2008 only to the extent that that Determination relates to the **retail market for premium access to call services including domestic calls from a fixed location**.
5. The Authority will review this market as part of a periodic review of the list of relevant markets or sooner, should the Authority determine that changes in market conditions warrant it. Such a review may conclude with a Determination that supersedes this present Determination.
6. This Determination shall come into effect from the date of its issuance.

**Market and Competition Review of the Retail Markets for Access to Call Services
including Domestic Calls from a Fixed Location**

DRAFT DETERMINATION OF SIGNIFICANT MARKET POWER

Signed on

[●]

Mohamed Bubashait

General Director

Telecommunication Regulatory Authority

Manama, Kingdom of Bahrain

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Annex 1 – Reasoning for the draft Determinations

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List of acronyms and definitions

ARPM	Average Revenue Per Minute
ARPU	Average Revenue Per User
Batelco	Bahrain Telecommunications Company B.S.C
CPS	Carrier Pre-Selection
BD	Bahraini Dinar
EC	European Commission
GCC countries	Gulf Cooperation Council countries
IDD	International Direct Dialling
Ofcom	Office of Communications (UK communications regulator)
OLO	Other Licensed Operator
POTS	Plain Old Telephone System
PPCC	Pre-paid Calling Cards
PSTN	Public Switched Telephone Network
RTN	Retail Tariff Notification
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
UK	United Kingdom

Market and Competition Review of the Retail Markets for Access to Call Services including Domestic Calls from a Fixed Location

Annex 1 – Reasoning for the draft Determinations

1 Introduction and purpose of this Annex

1. The Strategic and Retail Market Review of 2008 (“**2008 Review**”) considered the role of regulation in the telecommunications sector in Bahrain and established a package of regulatory measures designed to promote competition and the interests of Bahraini consumers.
2. Competition has developed significantly in Bahrain in the years following the 2008 Review, leading to lower prices and greater service innovation for Bahraini consumers. The Authority therefore carried out a holistic review of ex-ante regulation as part of the 2015 Strategic Market Review² (“**SMR**”).
3. The SMR concluded, amongst other things, that certain markets warrant further analysis to determine whether ex ante regulations that are currently imposed on these markets should be lifted. These markets include:
 - a. Retail market for premium access to call services, including domestic calls from a fixed location;
 - b. Retail market for mass-market access to call services, including domestic calls from a fixed location; and
 - c. Retail market for international outgoing calls from Bahrain.
4. The present competition and market review addresses the analysis for the markets identified under items (i) and (ii) in the above list which are referred to hereafter as “premium access to domestic calls” or “premium access market” and “mass-market access to domestic calls” or “mass-market”, respectively.
5. A separate review, with separate documentation, is being carried out for the retail market for international outgoing calls from Bahrain.
6. These Determinations and Annexes summarise the conclusions and verify the SMR’s underlying reasoning for the market definitions in the mass-market and premium access markets. A competitive assessment follows to determine whether or not any operator enjoys a position of Significant Market Power (“**SMP**”) in these markets.
7. An SMP determination in respect of the relevant markets provides the legal basis whereby regulatory obligations deemed necessary and/or mandated by the provisions of the Telecommunications Law promulgated by the Legislative Decree No. 48 of 2002 (the ‘Telecommunications Law’) can be defined and implemented.
8. This Annex is structured as follows:
 - a. Section 2 provides an overview of the analytical framework used to identify SMP in a relevant market.

² Available at <http://www.tra.org.bh/media/document/MCD%2008%2015%2062%20Final%20SMR%20Report%20-%20Public%20version.pdf>

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- b. Section 3 summarises the 2008 determination on the retail markets for narrowband access and domestic calls (i.e. the previous definition for the mass-market access and premium access markets), and provides a summary of existing regulation.
- c. Section 4 summarises the developments in this market since 2008.
- d. Section 5 outlines the SMR's findings and the conclusion on the definition of the relevant markets for domestic calls in Bahrain.
- e. Section 6 carries out the competitive assessment in the defined markets..
- f. Section 7 presents preliminary conclusions and implications.

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2 Analytical framework

9. To determine whether a licensed operator (or operators) hold SMP and/or a Dominant Position in a relevant market, the Authority has adopted a three-step process:
 - a. Define the relevant market(s);
 - b. Analyse the state of competition in the relevant market(s); and
 - c. Identify whether an operator(s) has SMP / Dominant Position.
10. At each step, the Authority relies on well-established economic principles and tests to define markets and assess competition. For example, in defining relevant markets, the focus is to ensure that the market boundary includes those services that are considered by users to be close economic substitutes for one another (demand-side substitution) and between which suppliers could easily switch production (supply-side substitution). To assess demand- and supply-side substitution, the hypothetical monopoly test³ can be a useful tool. The Authority's market definitions focus on the markets in which domestic call services are supplied.
11. The identification of relevant markets is not an end in itself, but is a critical step in assessing the extent to which any firm or firms in those markets have market power. Defining markets and assessing competition within those markets involves a degree of judgment, with the overarching purpose being to ensure that all relevant competitive constraints operating in a market (from both existing and potential competitors) are identified.
12. Throughout the three-step process, the Authority applies an analytical framework that is consistent with the Telecommunications Law and the Authority's Competition Guidelines.⁴ The tools and principles employed by the Authority are similar to those employed by other regulators and competition authorities, including the European Commission and national telecommunications regulatory authorities of the European Union.
13. Having identified the relevant markets, the Authority then looks at relevant factors to determine the level of competition in those defined markets, such as barriers to entry and expansion, and market shares. The purpose of this competition assessment is to identify any constraints, such as those from existing competition, potential competition, and any countervailing buyer power, that may limit the ability of an incumbent supplier of retail access to call services including domestic calls from a fixed location to act independently of its competitors or customers and exercise market power.

³ As set out in the Authority's Competition Guidelines, the "hypothetical monopoly test" identifies a group of products which are sufficiently close substitutes to be regarded as being in the same market. The approach is to assume that the products are supplied by a hypothetical monopolist. If the monopolist is able to profitably maintain a "small but significant non-transitory increase in price" ("SSNIP") for those products, then the appropriate market boundary has been defined (i.e. to include only those products), as no other products are regarded as being close demand-side or supply-side substitutes.

⁴ See "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

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14. The Telecommunications Law refers to two concepts of market power, namely a Dominant Position and SMP. The Competitions Guidelines interpret the distinction to be in terms of the markets in which the concepts apply.⁵ Dominant Position⁶ applies to an assessment of market power at the wholesale level while SMP applies to market power assessments at the retail level.
15. Findings of dominance and SMP impart different ex ante regulatory obligations on the affected operators:
 - a. Article 57 of the Telecommunications Law states that an operator with a dominant position in a market shall make available access and interconnection services by way of a Reference Offer, with tariffs, terms and conditions that are fair, reasonable, non-discriminatory and based on forward-looking incremental costs; and
 - b. Article 58 of the Telecommunications Law states that operators with SMP shall be subject to tariff controls as specified by the Authority by way of Regulation or Licence conditions.
16. Article 1 of the Telecommunications Law defines both SMP and a Dominant Position. An Operator with Significant Market Power is defined as holding a share of 25% or more of the relevant market as determined by the Authority.⁷ 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%. The SMP assessment is thus carried out for all operators based on their market shares.
17. In practice, the Authority considers that the concepts of SMP and dominance are similar and seek to capture similar types of behaviour,⁸ namely 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.⁹ However, the legal definition of SMP in the Telecommunications Law places special 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.

⁵ See Paragraph 90, "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

⁶ We use the terms Dominant Position and Dominance interchangeably throughout this document.

⁷ See Page 8, Telecommunications Law of the Kingdom of Bahrain. Available at <http://www.tra.org.bh/media/document/TelecommunicationsLaw-secondedition-English.pdf>

⁸ See Paragraph 92, "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

⁹ For example, the regulatory framework governing the EU telecommunications sector considers the concept of SMP to be equivalent to that of dominance.

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18. 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:¹⁰
- 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.
19. In its competition analysis, the Authority would follow the so-called Modified Greenfield approach.¹¹ The first step of this approach is for the Authority to assume that there is no retail regulation in place. The next step is for the Authority to consider the impact of any existing wholesale regulation on the competitive outcomes at the retail level. In its analysis, the Authority specifically identifies which existing regulations impact its findings (and how).
20. In reaching its conclusion, the Authority has considered relevant facts and information, including information that the Authority has gathered through its periodic market data questionnaires, requests for additional information under Article 53 of the Law, residential and business surveys as well as other sources of information.
21. In the following sections, the Authority defines the relevant retail market relating to the provision of domestic calls (Section 5.2) and then evaluates whether any Licensed Operator has SMP in the relevant retail markets (Section 6).

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

¹¹ This approach is common in the European regulatory framework. See the explanatory note for the Commission's Recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC. Available at <http://ec.europa.eu/digital-agenda/en/news/commission-recommendation-relevant-product-and-service-markets-within-electronic-communications>.

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3 Findings in the Strategic and Retail Market Review 2008 and Summary of existing regulation

22. This section summarises the findings on market definitions and competitive assessments in the Strategic and Retail Market Review of 2008 (“the **2008 Review**”).¹²
23. It also provides a summary of the current regulations imposed on the SMP operator.
24. Details on the reasoning behind the Authority’s market definitions and competitive assessments in the 2008 Review have been included in Annex 2.

3.1 Conclusions of the 2008 Review

25. The Authority has previously considered the retail markets for access services and domestic calls as part of the 2008 Review.
26. In the 2008 Review, the relevant market was divided into four specific markets with a distinction made between residential and non-residential customers and narrowband access and fixed calls (referred to as “access” and “calls” respectively hereafter).
27. The focal product was the traditional fixed voice service provided over the fixed access copper network i.e. Plain Old Telephone System (“**POTS**”),¹³ Mobile was not found to be a substitute for this in either the access or calls market. After presenting its findings for public consultation on 27 August 2007, the Authority took on board responses received from operators and presented its final analysis and conclusions on 3 June 2008.¹⁴
28. The Authority came to the conclusion that the relevant markets should be defined as:
 - a. The retail market for fixed narrowband access services for residential customers. (Market 1a);
 - b. The retail market for fixed narrowband access services for non-residential customers. (Market 1b);
 - c. The retail market for fixed originated domestic calls for residential customers to either fixed or mobile subscribers. (Market 2a); and
 - d. The retail market for fixed originated domestic calls for non-residential customers to either fixed or mobile subscribers. (Market 2b).

¹² Available at http://216.25.41.102/en/pdf/Strategic_and_Retail_Market_Review_Consultation_Final.pdf

¹³ This has been referred to as Public Switched Telephone Network (“PSTN”) in the 2008 review. Technically, PSTN includes all networks i.e. POTS, ISDN, Managed VoIP, mobile networks etc. However, in the 2008 Review, PSTN was understood to be the traditional fixed voice service provided over the fixed access copper network i.e. POTS. This applies to the current market review as well i.e. the fixed voice service over the copper fixed access network is referred to as “PSTN” hereafter.

¹⁴ Available at <http://www.tra.org.bh/media/document/FINALSMPDetermination20080603.pdf>

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29. Based on an analysis of market shares, barriers to entry, market developments, etc. as per the competition guidelines, Batelco was found to have Significant Market Power in all four of the relevant markets (1a, 1b, 2a, 2b).

3.2 Summary of existing regulation

30. Article 58 of the Telecommunications Law states that a licensed operator with SMP shall be subject to tariff controls specified by the Authority through regulations.
31. Following the 2008 SMP Determination and the issuance of the Retail Tariff Notification (“RTN”) Regulation in 2010,¹⁵ the services that Batelco supplies in the retail markets for fixed narrowband access services (markets 1a and 1b) as well as in the retail markets for originated domestic calls (markets 2a and 2b) are subject to RTN Regulation. As a result, any changes to Batelco’s tariffs for these services must be notified to the Authority before their introduction, with Batelco required to confirm that such tariff changes adhere to a set of tariff controls.
32. The tariff controls set out in the RTN Regulation are designed to ensure that the proposed tariffs do not give rise to anticompetitive practices, including but not limited to undue discrimination, excessive pricing, margin squeezes, predatory pricing, or abusive tying or bundling.
33. Furthermore, an operator with SMP is required to offer the Carrier Pre-Selection (CPS) Service over its network as per the Telecommunications Law¹⁶ and the 2004 Carrier Pre-Selection Regulation.¹⁷

¹⁵ See “Retail Tariff Notification Regulation”, 21 February 2010. Available at <http://www.tra.org.bh/media/document/Retail%20Tariff%20Notification%20Regulation.pdf>

¹⁶ See Article 40, Telecommunications Law of the Kingdom of Bahrain. Available at <http://www.tra.org.bh/media/document/TelecommunicationsLaw-secondedition-English.pdf>

¹⁷ Available at http://www.tra.bh/media/document/FINAL_CPS_REG_MOU_RN1_13th_June04.pdf

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4 Developments since 2008

34. Since the 2008 Review, a number of developments in the sector are likely to have affected the competitive environment for domestic calls. These include the increased uptake of mobile services and Over The Top (“OTT”) calling services.¹⁸
35. Mobile services have grown rapidly in the past seven years and now have much higher subscription penetration levels, traffic numbers and revenues than fixed line products.
36. Alongside this, there has been a decline in the number of active fixed PSTN¹⁹ lines, whilst ISDN continues to be used heavily by a small number of larger businesses.
37. IP-based solutions are beginning to emerge as an alternative, with traffic and subscribers increasing over time. However, the absolute numbers of subscribers, traffic and revenues still remain low compared to traditional technologies.

4.1 Developments in subscription numbers

38. Mobile technologies account for the vast majority of subscriptions used for domestic calls in Bahrain (90% as of the end of 2014). Mobile subscriptions have grown by 40% since 2010. This can be seen in Figure 1 below.

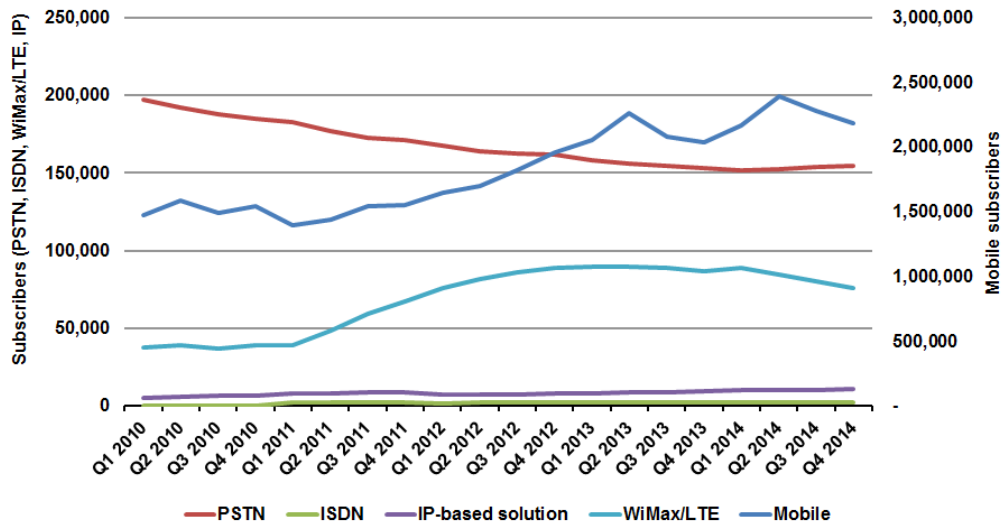
¹⁸ OTT services refer to unmanaged VoIP services such as Skype, Tango, WhatsApp, etc.

¹⁹ As mentioned earlier, Public Switched Telephone Network (“PSTN”) technically includes all networks i.e. POTS, ISDN, Managed VoIP, mobile networks etc. However, 2008 Review referred to PSTN as shorthand for the traditional fixed voice service provided over the fixed access copper network i.e. POTS. This applies to the current market review as well i.e. the fixed voice service over the copper fixed access network is referred to as “PSTN”.

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Figure 1: Subscription growth by technology



Source: The Authority's analysis based on operator data

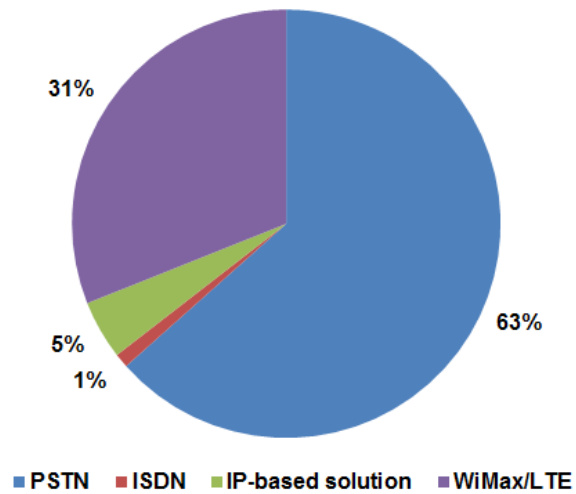
39. PSTN subscriptions have declined by 16% since 2010. ISDN lines, mainly used by larger businesses, have been less susceptible to the competition from mobile and have seen subscriber numbers increase by 6% in the past five years.
40. WiMax/LTE²⁰ and IP based solutions have also seen strong growth in the past five years, although admittedly from a very low base. WiMax/LTE technologies have grown by 97% and IP-based solutions by 53% between 2010 and 2014.
41. However, WiMax/LTE subscriber numbers have declined slightly in the last two years while those for IP-based solutions have increased by 55% between 2010 and 2014.
42. Mobile accounts for 90% of subscribers (when including all those subscribed to PSTN, ISDN, IP-based solutions, WiMax/LTE and mobile) at the end of 2014. When excluding mobile, PSTN makes up the largest share, with 64% of non-mobile subscribers in 2014. Figure 2 below shows the split of non-mobile subscribers in 2014.

²⁰ Note that LTE here refers to the technology used under the National Fixed Wireless Telecommunications License (NFWS) rather than the LTE services provided under the IMTL Licence.

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Figure 2: Subscriber market shares, excluding mobile, 2014



Source: The Authority's analysis based on operator data

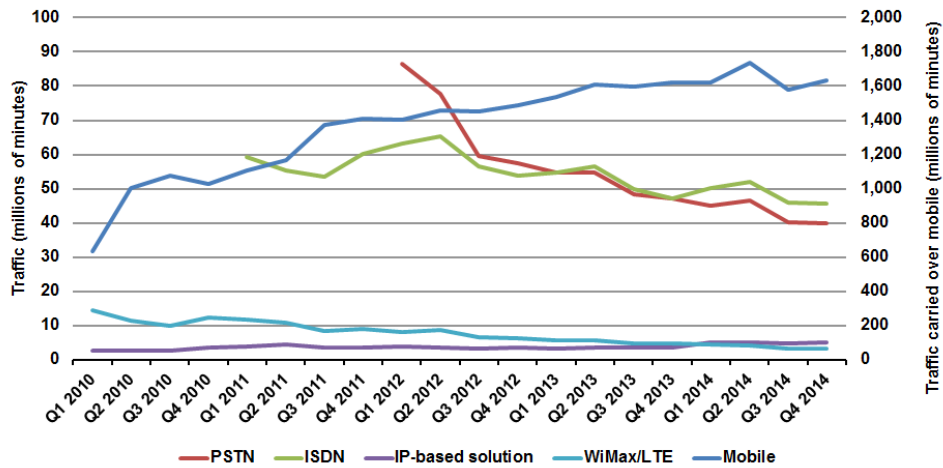
4.2 Developments in domestic traffic minutes

43. As with subscription numbers, the vast majority of traffic minutes in Bahrain are originated on mobile networks, as seen in Figure 3, accounting for 94% of traffic as of the end of 2014.

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Figure 3: Domestic traffic carried over different technologies



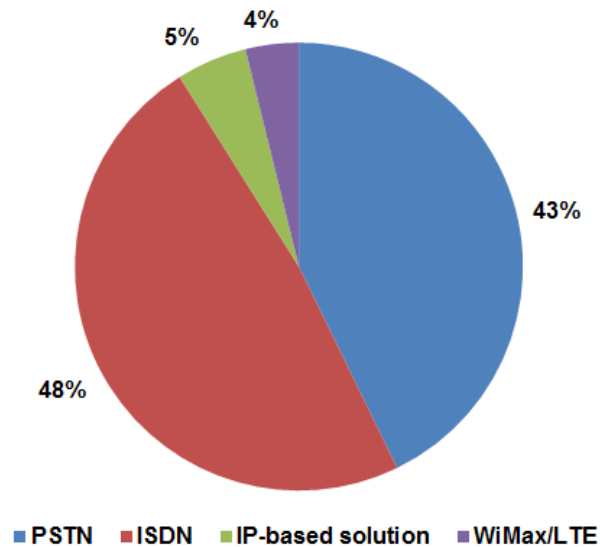
Note that the time series for PSTN is not available prior to 2012 and that for ISDN is not available prior to 2011.
Source: The Authority's analysis of operator data

44. PSTN accounts for 2% of traffic minutes and ISDN also accounts for approximately 3%. When examining the traffic carried over technologies other than mobile, PSTN accounts for 49% while ISDN makes up 43%.

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Figure 4: Domestic traffic carried over different technologies in 2014, excluding mobile.



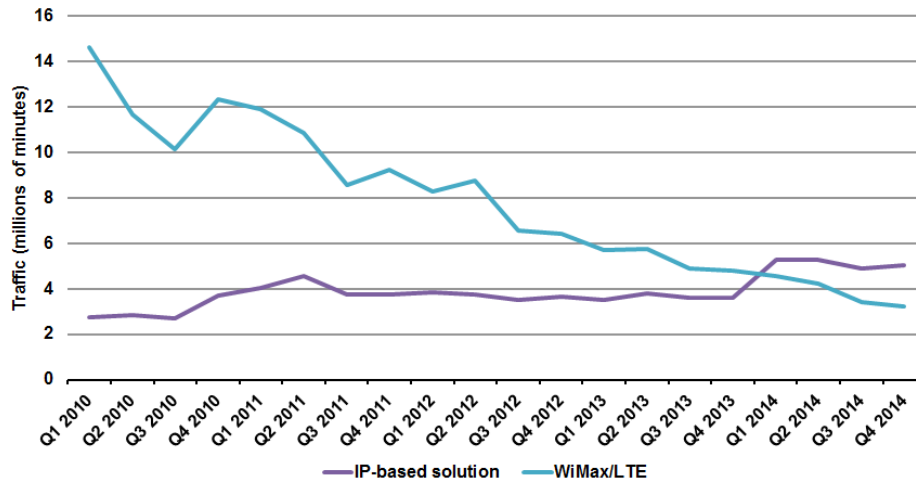
Source: The Authority's analysis of operator data

45. As such, ISDN traffic minutes are highly disproportional relative to the number of subscribers: Batelco's 2,600 ISDN subscribers account for as many traffic minutes as its 76,000 business PSTN subscribers.
46. WiMAX/LTE and IP solutions account for a small proportion of traffic minutes in Bahrain. However, the trends for the two differ; traffic carried over IP-based solutions has been gradually increasing while that over WiMAX/LTE has been declining, as can be seen in Figure 5.

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Figure 5: Traffic carried over WiMAX/LTE and IP-based solutions



Source: The Authority's analysis based on operator data

47. In summary, the trends in traffic mirror those in subscriber numbers; mobile has seen exponential growth since the previous review and now makes up over 90% of subscribers and traffic.

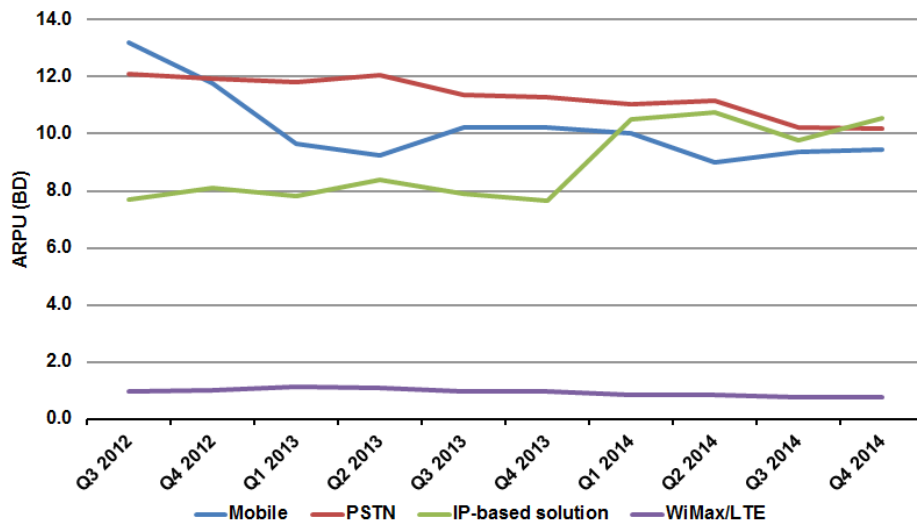
4.3 Developments in ARPU

48. There appears to have been a convergence in the ARPUs of non-ISDN technologies over time, as seen in Figure 6. This could indicate that these technologies have been competing with each other and constrain each other's pricing.

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Figure 6: Evolution of Average revenue per user (ARPU) over time



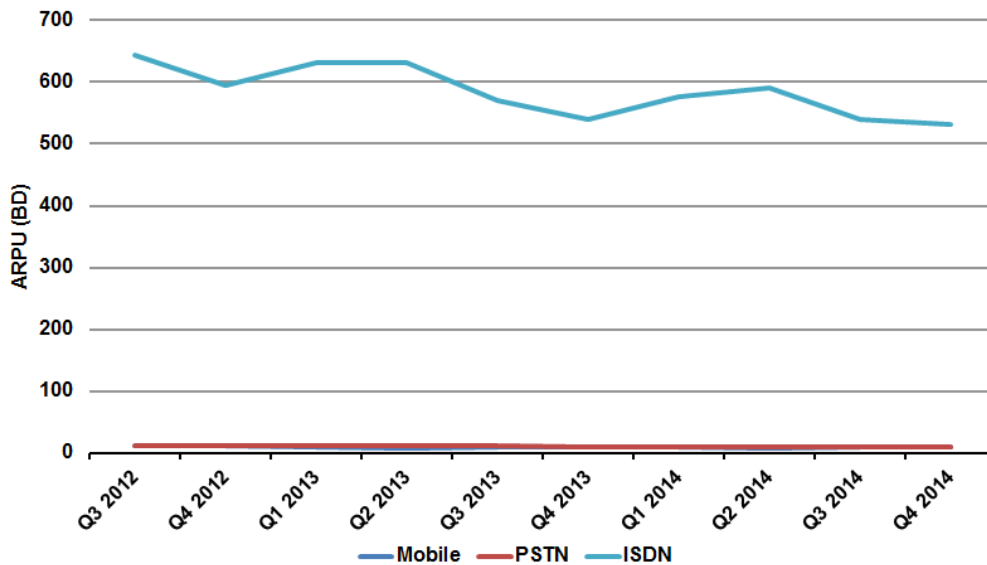
Note that the PSTN revenues include some ISDN connection revenues. The PSTN ARPU is thus over-stated.
 Source: The Authority's analysis based on operator data

49. Figure 7 shows that the ISDN ARPU has remained much higher than the ARPU of PSTN or mobile, indicating that the product is likely targeted at a different customer segment i.e. a small number of high-volume business users. This is in line with earlier observations that ISDN users generate a disproportionate quantity of traffic; 2,600 subscribers made as many minutes of calls as approximately 76,000 business PSTN users.

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Figure 7: Evolution of Average revenue per user (ARPU) for ISDN, PSTN and mobile over time



Note that the PSTN revenues include some ISDN connection revenues. The PSTN ARPU is thus over-stated.
Source: The Authority's analysis based on operator data

50. Thus, the levels and trends in ARPU confirm that ISDN could be in a separate market to the remaining technologies and that these remaining technologies could be competitive constraints on each other. This is looked at in greater detail in **Section 5.2** when carrying out the market definition exercise.

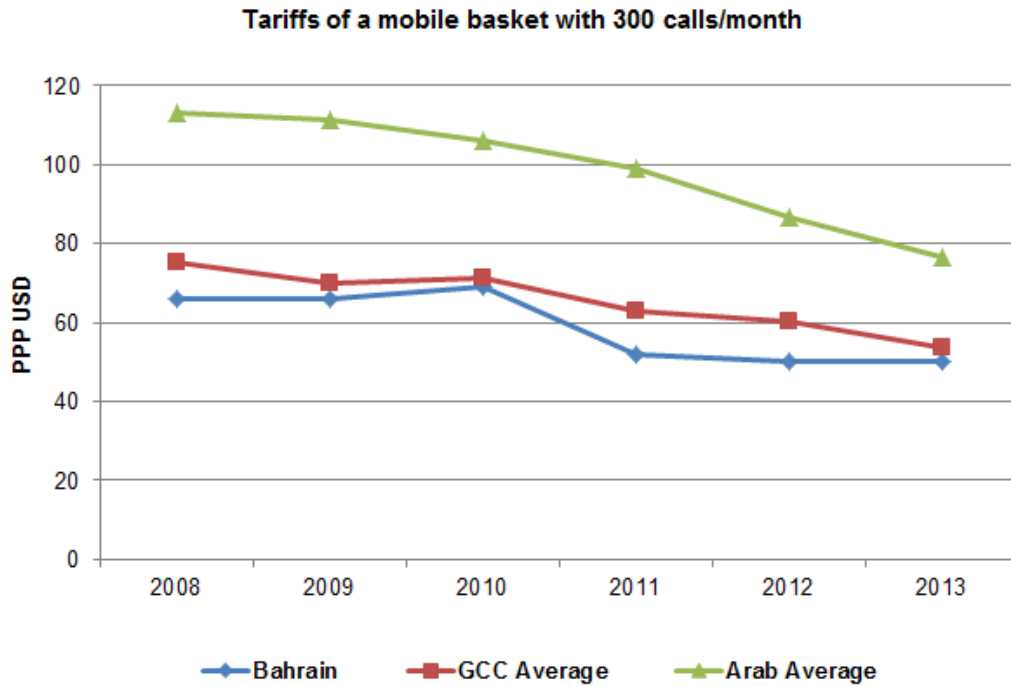
4.4 Price comparisons with regional average

51. In this section, the Authority compares the prices of PSTN and mobile products with regional averages to assess whether the product pricing is relatively competitive. Prices higher than regional averages may be a cause for concern and should therefore be investigated to determine if the price levels in Bahrain are due to a lack of effective competition in the market, or are a result of unavoidable cost differences.
52. Retail tariffs for mobile and PSTN products in Bahrain remain below regional averages based on the *2013 Telecommunications Retail Price Benchmarking Report for Arab Countries*.
53. As seen in Figure 8 and Figure 9 below, based on a call package of 300 mobile calls per month (split between voice, fixed, message and international), mobile calls in Bahrain remain 35% below the Arab average and 7% below the GCC average. A similar trend was observed for other mobile packages considered in the report.

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Figure 8: Evolution of mobile prices over time



Source: Arab 2013 Telecommunications Retail Price Benchmarking Report for Arab Countries. April 2014.

Figure 9: Price of a mobile 300 calls/month basket

	2008	2009	2010	2011	2012	2013
Bahrain	66.13	66.22	68.98	51.95	50.1	50.11
Kuwait	61.93	66.4	63.16	58.79	60.67	70.91
Oman	71.21	59.01	70.35	70.27	69.59	62.75
Qatar	91.09	65.77	65.62	57.33	59.39	35.42
Saudi Arabia	97.36	97.33	97.33	75.67	75.18	55.37
UAE	64.47	64.95	62.42	62.74	47.95	47.94
GCC Average	75.37	69.95	71.31	62.79	60.48	53.75
Arab Average	113.33	111.31	106.17	99.07	86.74	76.74

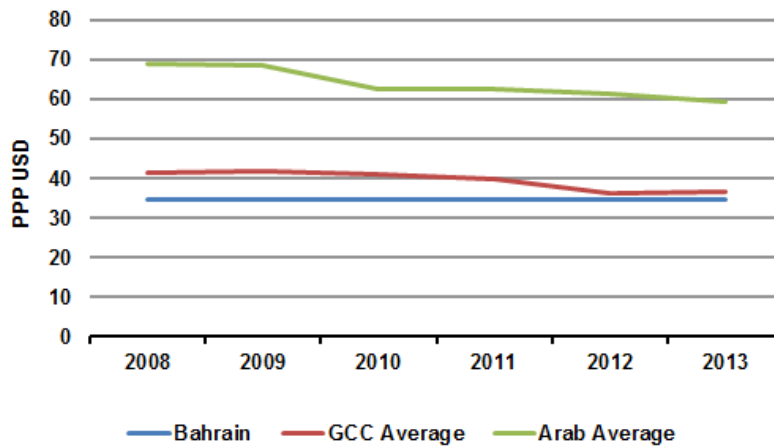
Source: Arab 2013 Telecommunications Retail Price Benchmarking Report for Arab Countries. April 2014.

The Arab 2013 Benchmarking Report also found that PSTN calls in Bahrain were significantly cheaper than regional averages for both residential and business customers, as seen in Figure 10 and Figure 11 below.

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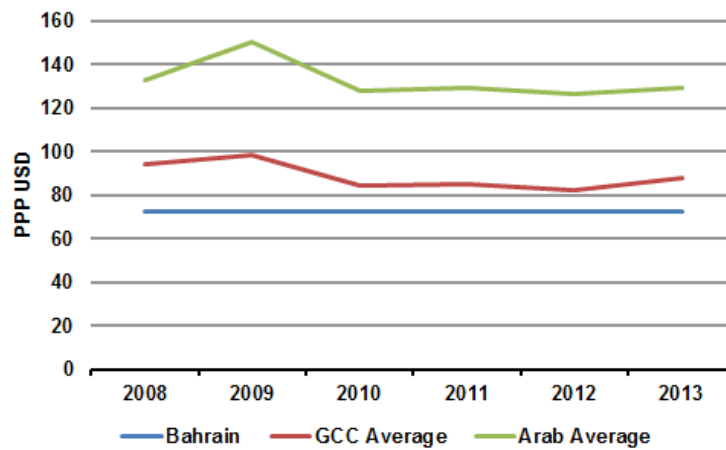
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Figure 10: Tariffs of a PSTN residential basket with 140 calls/month



Source: Arab 2013 Telecommunications Retail Price Benchmarking Report for Arab Countries. April 2014

Figure 11: Tariffs of a PSTN business basket with 260 calls/month



Source: Arab 2013 Telecommunications Retail Price Benchmarking Report for Arab Countries. April 2014

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5 2015 Strategic Market Review (SMR) and identification of the relevant retail market

5.1 Conclusions in the SMR

54. The SMR analysed the developments in the sector since 2008. Those which are most relevant to this review have been highlighted in Section 4. Based on the analysis in the SMR, the Authority no longer considered the market definition as per the 2008 determination appropriate.
55. In the SMR the Authority:
- a. Redefined the relevant retail markets as:
 - i. The retail market for mass-market access to call services including domestic calls from fixed locations;
 - ii. The retail market for premium access to call services including domestic calls from fixed locations.
 - b. The redefined mass-market included standard PSTN and fixed-wireless subscription services and provided to residential and business customers. The reasoning for redefining the mass market to comprise both residential and business customers was that the services offered to the two sets of customer are essentially the same, functionally and technologically. Furthermore, the SMR found that this market is increasingly likely to include mobile services, and at the very least a hypothetical monopolist would be constrained by the supply of mobile access and call services.
 - c. ISDN services were found to be supplied in a distinct retail market (the premium-access market), which was also found to include IP-based access solutions which could provide “equivalent functionalities and features to ISDN”. However, mobile-services were not seen to be a constraint on this market owing to the fundamental technological differences between the two.

5.2 Identification of the relevant retail market

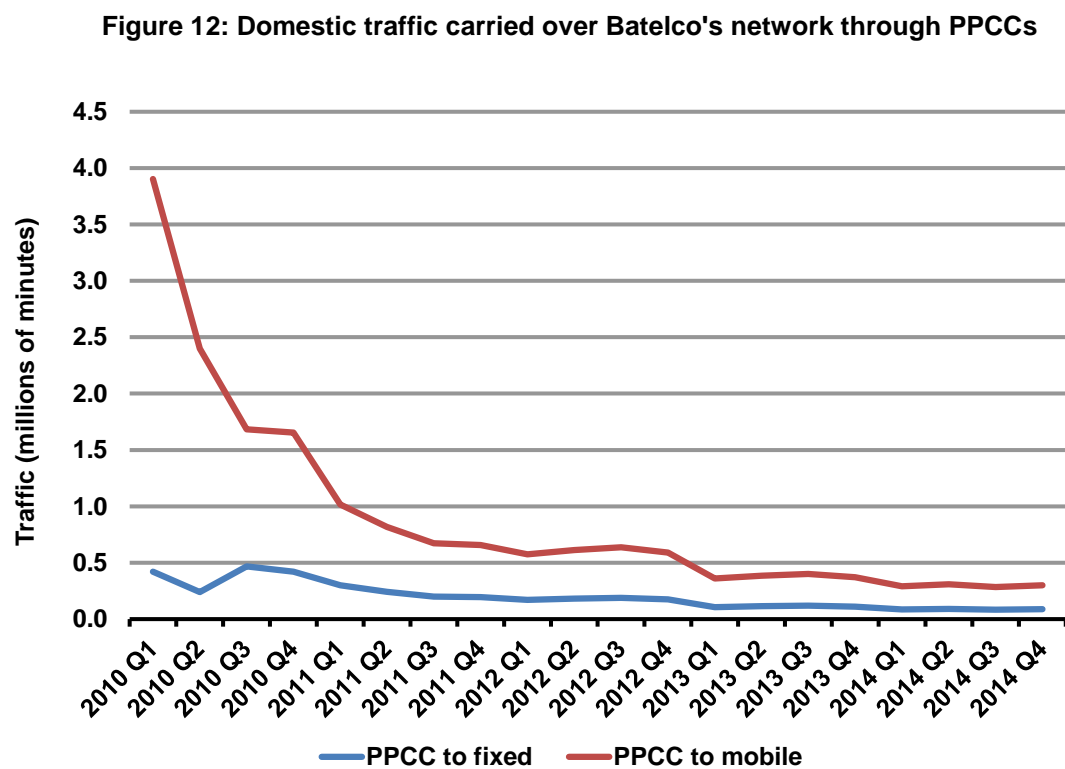
56. As explained in the introduction in Section 1, the market definition exercise was carried out in the SMR.
57. Since the SMR, 2014 data has become available, and the Authority has now analysed this to ensure that the market definition as per the SMR remains appropriate.
58. Based on this assessment, this section therefore defines the relevant retail markets for access to call services including domestic calls from a fixed location.

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5.2.1 Combining access and calls markets

59. The 2008 Review had defined separate markets for narrowband access and calls. At the time, mobile and WiMax were recent entrants into the market. PSTN was the prominent technology and access and calls were not always sold together. Furthermore, the degree of competition in the two markets was found to be different with several OLOs competing with Batelco in the market for call services.
60. As seen in Section 4, mobile has seen significantly increased take-up since 2008. The use of pre-paid calling cards (PPCCs) for making domestic calls, on the other hand, has declined, as seen in Figure 12.



Source: The Authority's analysis of operator data

61. This has diminished the need for a distinction between access and calls. The rise in mobile subscriptions and traffic and simultaneous decline in PPCCs imply that access and calls are increasingly being purchased together.
62. Thus, the MNOs competing with Batelco in the calls market also compete with Batelco as access-providers.
63. Given the similar competitive environment in both markets, it is now appropriate to analyse them as a single market.

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5.2.2 Relevant customer market

64. This section assesses the extent to which the residential and business PSTN products are substitutes.
65. As was outlined in the SMR, there appears to be supply-side substitutability between Batelco's business and residential PSTN products. The features of the two products are similar, as seen in Table 1 below, indicating that they are effectively the same service from a technological and functional perspective.

Table 1: Comparing Batelco's residential and business PSTN offering

Feature	Residential PSTN	Business PSTN
Installation charge (BD)	BD 20	BD 20
Monthly rental (BD/month)	BD 1.160	BD 2.160
Charge for fixed line to fixed line	21 fils per 180 seconds	21 fils per 180 seconds
Charge for fixed line to mobile	21 fils per 90 seconds	21 fils per 90 seconds

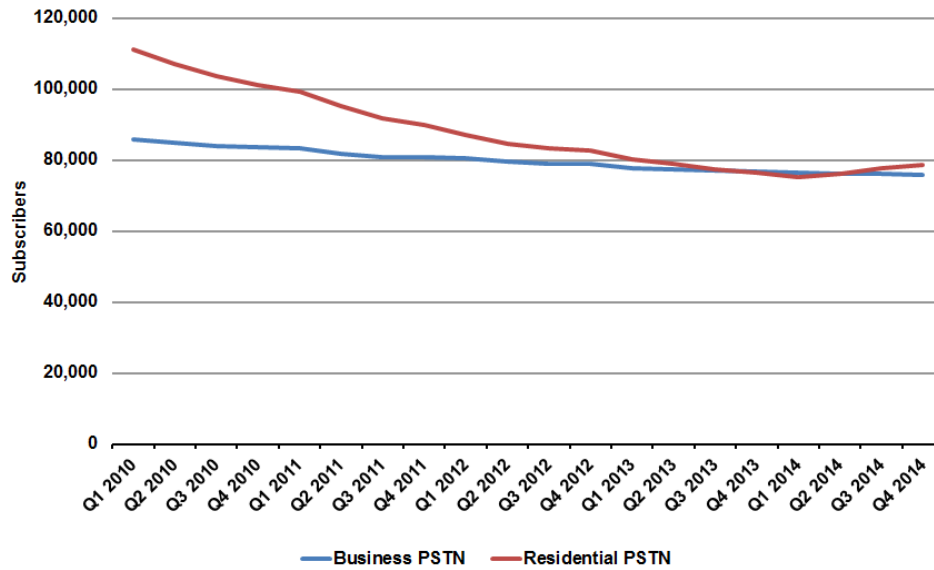
Source: Batelco website accessed on 11 August 2015

66. The similarity in the product offering and the pricing (other than the monthly rental) also suggests that the two products could be demand-side substitutes.
67. In theory, there are no barriers to switching between the business and residential PSTN products. A customer would be required to present their CR number if they purchase a business PSTN product. However, the same customer could present their CPR number and acquire a residential PSTN product instead.
68. However, there has been little evidence of switching between the two types of product. As Figure 13 shows, subscriber numbers for business PSTN have remained fairly stable, falling by 10% compared to the 20% fall in residential PSTN subscribers.

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Figure 13: Evolution of business and residential PSTN subscriber numbers



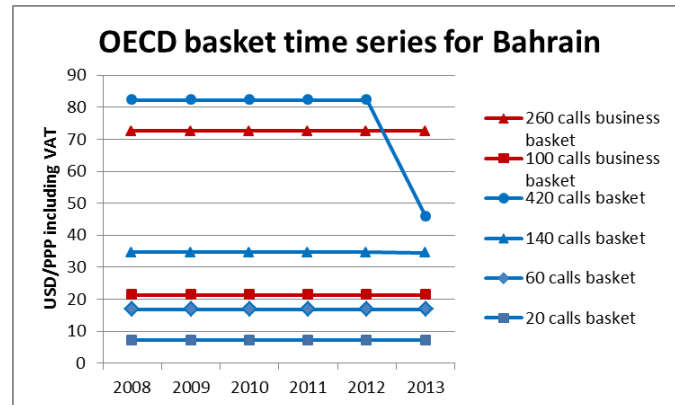
Source: The Authority's analysis of operator data

69. This is partly driven by the fact that the prices of the two products have not changed over the period and so, the price difference between them has remained at the BD 1 difference in monthly rental.
70. As such, the Authority does not believe that this lack of switching is evidence that the services should be in separate markets.

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Figure 14: Comparing business and residential retail tariffs



N.B. Batelco launched Unlimited Bolt-ons in 2013²¹ for the residential PSTN customers which resulted in the drop in price of the high usage residential basket above.

Source: Arab benchmarking report, 2013

71. Given the supply-side substitutability and the likely demand-side substitutability, the Authority finds that separate markets should not be defined for business and residential customers.
72. Furthermore, as is discussed in the sections that follow, it appears that the same technologies are substitutes for PSTN in both customer segments. Given that this would lead to the same market definition and eventually competitive assessment, the Authority has preliminarily defined a single market for business and residential products.
73. However, the Authority is cautious in defining the market as such and will continue to monitor the developments in the business PSTN product to ensure that there is no competition problem in the future.
74. Thus, the relevant market preliminarily includes both business and residential customers.

5.2.3 Relevant product market

75. This section assesses the substitutability between PSTN and alternate technologies.
76. Batelco offers an ISDN service which allows simultaneous conveyance of voice, video and data traffic. The ISDN service therefore offers more functionalities than the PSTN service with additional features such as supporting LAN connectivity, fast FTP utilisation, remote access to internal networks and back-up capabilities for leased lines. This is also reflected

²¹ See <http://portal.batelco.com/personal-fixed-services/telephone-line/> and <http://portal.batelco.com/main-business/telephone-service/>

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in the fact that typically, larger businesses buy ISDN services while smaller businesses buy the PSTN service.

77. Batelco offers two types of ISDN services, the Basic Rate Access option which provides two channels and the Primary Rate Access option which provides up to 30 channels.
78. As Table 2 below shows, the ISDN services are priced at a significant premium to PSTN services in terms of both installation charge and monthly rental.

Table 2: Comparing Batelco’s PSTN and ISDN offering

Feature	Residential PSTN	Business PSTN	Basic Rate Access ISDN	Primary Rate Access ISDN
Installation charge (BD)	BD 20	BD 20	BD 25	BD 200
Monthly rental (BD/month)	BD 1.160	BD 2.160	BD 8.500	35BD(10 channels) 63 BD (20 channels) 84 BD (30 channels)
Charge for fixed line to fixed line	21 fils per 180 seconds	21 fils per 180 seconds	21 fils per 180 seconds	21 fils per 180 seconds
Charge for fixed line to mobile	21 fils per 90 seconds	21 fils per 90 seconds	21 fils per 90 seconds	21 fils per 90 seconds

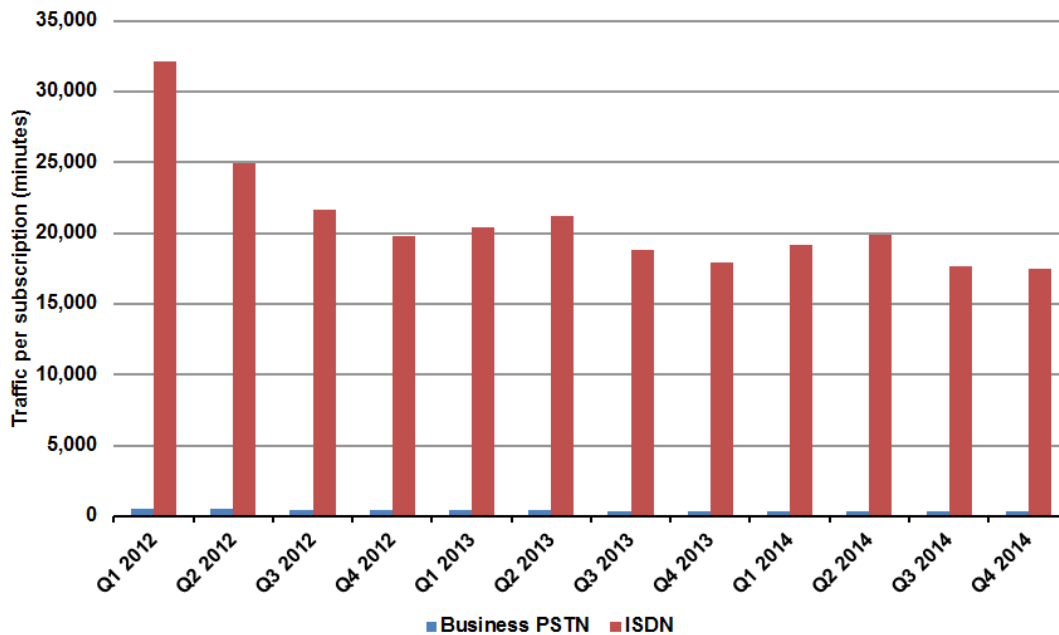
Source: Batelco website accessed on 11 August 2015

79. Given the differences in the product characteristics and prices, it is unlikely that ISDN and PSTN are demand-side substitutes.
80. Indeed, the pattern of usage of PSTN and ISDN users suggests that they are not likely to be viewed as substitutes. Figure 15 shows that the traffic generated per ISDN subscription is significantly higher than that generated per PSTN subscription.

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Figure 15: Comparing quarterly average usage between PSTN and ISDN subscriptions



Source: The Authority's analysis of operator data

81. Thus, even though ISDN is a legacy technology and market reviews and market definitions are based on forward-looking analysis, the Authority has decided to define a separate relevant market for ISDN, as per the SMR, because it is still widely used in Bahrain.

82. Therefore, two separate markets are defined as follows:

- i. The retail market for mass-market access to call services including domestic calls from a fixed location, where PSTN is the focal product;
- ii. The retail market for premium access to call services including domestic calls from a fixed location, where ISDN is the focal product.

83. The extent to which these products have substitutes is now considered.

5.2.3.1 Mass-market access to call services

84. There is strong evidence to suggest that there is demand-side substitutability between mobile and residential PSTN and to a lesser extent, business PSTN.

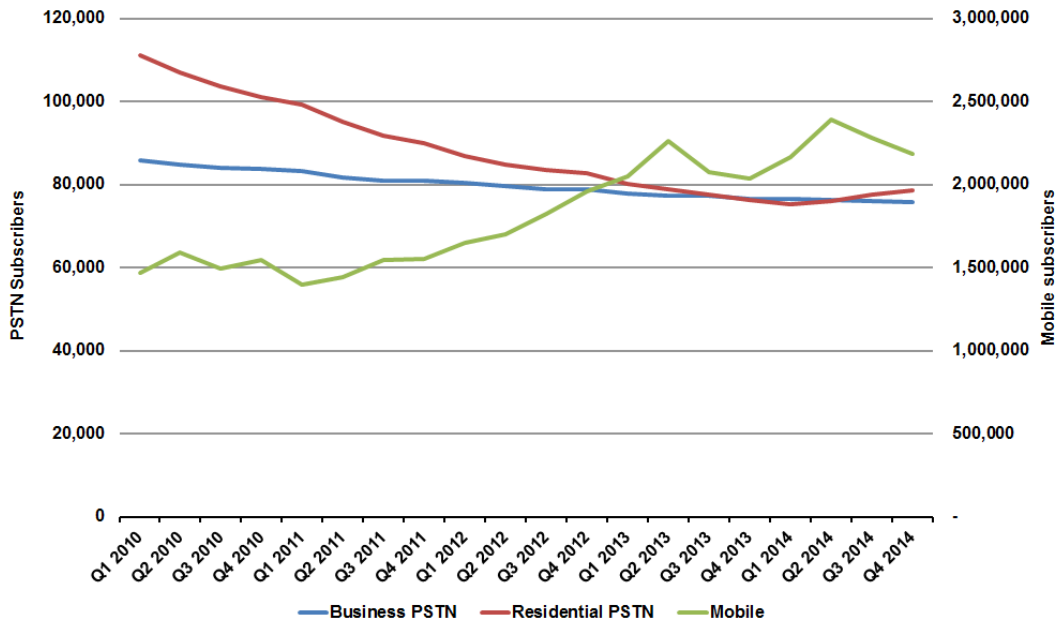
85. The trend in subscriber numbers suggests that there has been switching from fixed-line to mobile services. Figure 16 shows PSTN subscribers declining while mobile subscribers have increased over the same period. The decline has been sharper for residential PSTN

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users than business PSTN users implying that there could be a greater degree of substitutability between residential PSTN and mobile, than business PSTN and mobile.

Figure 16: Evolution of subscriber numbers



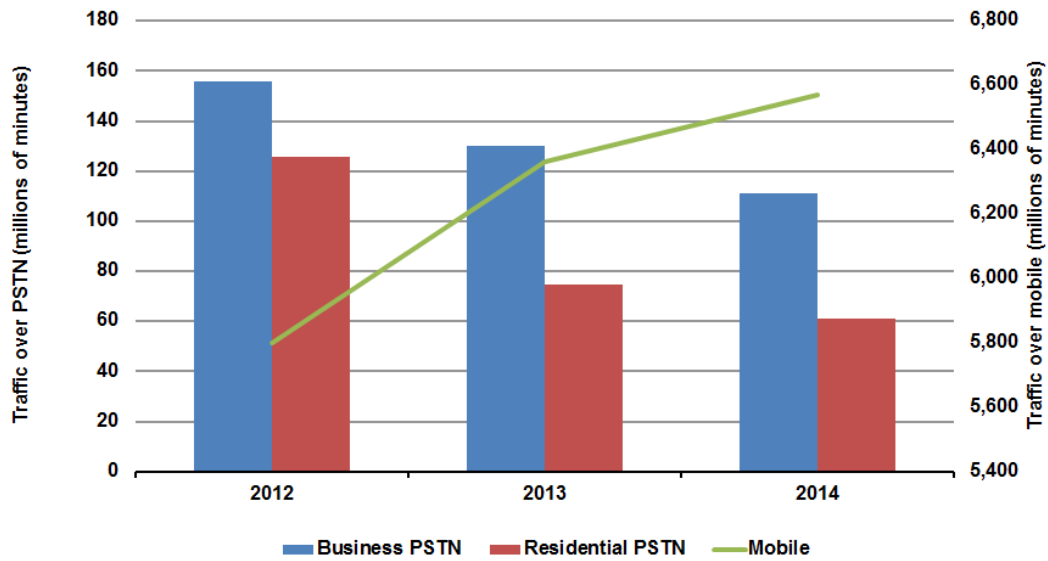
Source: The Authority's analysis of operator data

86. There has been a similar decline in traffic over PSTN and an increase in mobile originated traffic, which could point to a certain degree of substitutability between the two technologies. This is illustrated in Figure 17 and could indicate some level of substitution between residential PSTN and mobile, and to a lesser extent, between business PSTN and mobile.

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Figure 17: Evolution of traffic



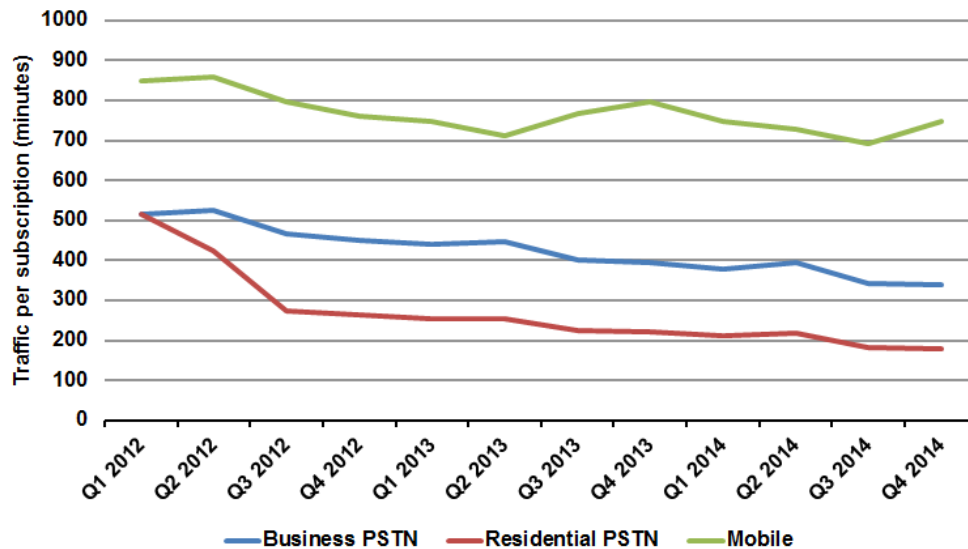
Source: The Authority's analysis of operator data

87. The steeper decline in traffic than subscriber numbers for PSTN is reflected in Figure 18, comparing the usage per subscription for business PSTN, residential PSTN and mobile. The fall in usage could be reflective of consumers switching to use mobiles to make at least some of their calls.

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Figure 18: Evolution of quarterly usage per subscription



Source: The Authority's analysis of operator data

88. The Authority has also carried out residential and business customer surveys in the period from May to July 2015 to assess satisfaction, perceptions on quality as well as propensity to switch.²²
89. According to the residential survey, 55% of respondents said that they would switch to making domestic calls through mobile if the price of domestic calls from a fixed line increased by 10%.
90. A similar question was asked in the business survey. However, the results were different. Amongst PSTN subscribers only 16% of business respondents said that they would switch to a mobile service. However, this may be understated by the fact that 55% of the respondents said they provided mobiles to their staff and 33% of respondents said they had mobiles because it was cheaper than a fixed line.
91. In conclusion, given the trends in traffic and subscriptions and the comparability of prices, the Authority finds that mobile is most likely to be viewed as a substitute for residential PSTN.
92. The evidence on switching is less strong between business PSTN and mobile, although it would appear that the two could be substitutes as well, given that the business and residential PSTN products have similar prices and features.

²² The results of the surveys will be published in the Authority's website by December 2015.

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93. Thus, mobile and residential PSTN are likely to be demand-side substitutes based on the evidence discussed above and so, mobile could exert a competitive constraint on residential PSTN. Residential PSTN and business PSTN are substitutes as per the discussion in Section 5.2.2. Residential PSTN could thus exert a competitive constraint on business PSTN. The chain of substitution would therefore imply that mobile indirectly exerts a competitive constraint on business PSTN.
94. Thus, there is some evidence of direct substitution between mobile and business PSTN in the form of the survey results. While not compelling when considered in isolation, the Authority concludes that this when put alongside the evidence on indirect constraints means it is reasonable to define the market more widely. That is, the Authority therefore considers it appropriate to define the relevant market to include all three products, namely residential PSTN, business PSTN and mobile.
95. However, the Authority does acknowledge the differences in the strength of the constraint imposed by mobile on business and residential PSTN. For this reason, the Authority will continue to monitor developments in the business PSTN product and intervene should there appear to be a competition concern.
96. Finally, the Authority considers the extent to which IP-based solutions which could be provided over a number of technologies (WiMAX/LTE, ADSL, etc.) could be a substitute for the PSTN product.
97. Operators typically offer a wide range of some IP-based solutions aimed at a variety of customer-types, ranging from residential users to small businesses to large enterprises. The enterprise IP products have features (such as multiple lines) which neither the business nor residential PSTN product offers. Thus, the residential and more basic business products have functionalities equivalent to those of PSTN and so, the extent to which they would be viewed as substitutes for PSTN is considered.
98. IP-based solutions can be accessed using a device connected to broadband (laptop, phone or desktop) or an existing telephone line and provide voice services. As Table 3 shows, the prices on the two products are largely comparable.

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Table 3: Comparing PSTN and IP-based solutions

Feature	Residential PSTN	Business PSTN	Etisalcom Etsl
Installation charge (BD)	BD 20	BD 20	BD 20
Monthly rental (BD/month)	BD 1.160	BD 2.160	N/A
Charge for calls to fixed line	21 fils per 180 seconds	21 fils per 180 seconds	7 fils per 60 seconds
Charge for calls to mobile	21 fils per 90 seconds	21 fils per 90 seconds	14 fils per 60 seconds
On-net calls	N/A	N/A	12,000 minutes
Off-net calls	N/A	N/A	N/A

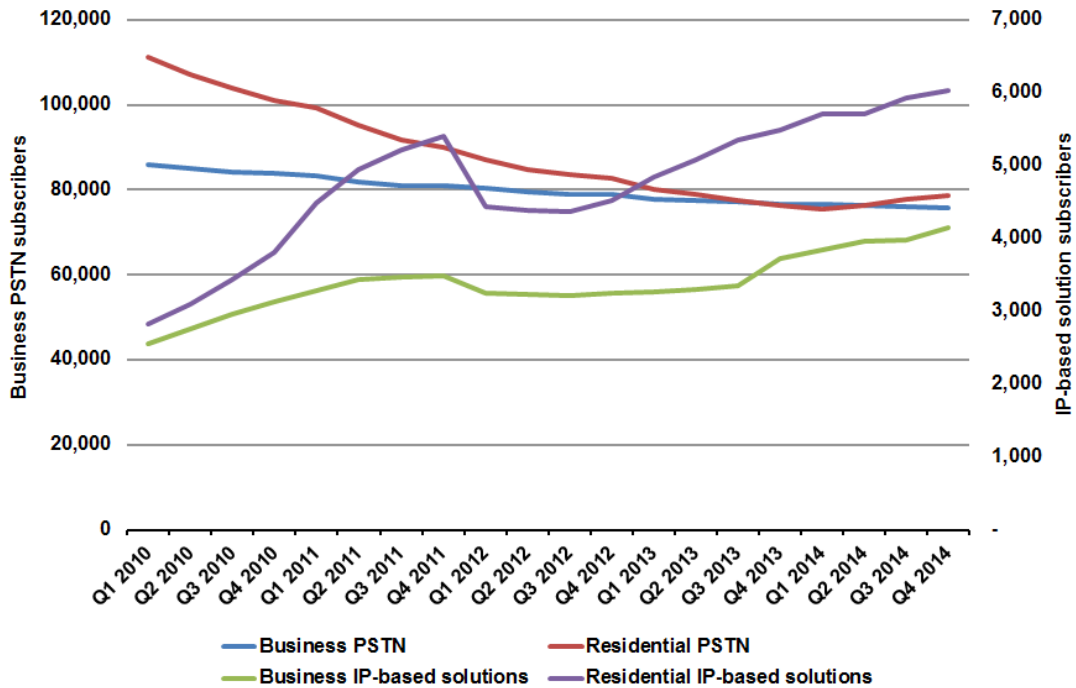
Source: Batelco and Etisalcom's websites, accessed on 11 August 2015.

99. Subscriber numbers also seem to suggest that some IP-based solutions may increasingly be perceived as demand-side substitutes for business and residential PSTN products. The subscriber numbers are comparatively low for IP-based solutions at the moment but have been increasing, as seen in Figure 19. The Authority expects these to increase further over time as broadband speeds improve.

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Figure 19: Evolution of PSTN and IP-based solution subscriber numbers



Source: The Authority's analysis of operator data

100. Based on demand-side substitutability, the Authority therefore considers IP-solutions of equivalent functionality to be part of the relevant market.

101. Thus, in summary, the mass-market would include PSTN, mobile and IP-based solutions²³ of equivalent functionality which would be an IP-based solution which offers:

- a. One voice channel; and/or
- b. Standard customer support (which excludes additional services such as but not limited dedicated customer support, dedicated account manager, etc.).

5.2.3.2 Premium access to call services

102. The focal product for the premium access market would be ISDN. As mentioned earlier, although ISDN is a legacy technology, the Authority finds it appropriate to consider it as a separate relevant market because of its importance to the business community in Bahrain.

²³ These will include domestic call products provided over WiMAX/LTE.

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103. Given the functionality ISDN offers and the infrastructure used to provide it, mobile is unlikely to be a substitute from either a demand or supply-side perspective.
104. On the demand-side, mobile is unlikely to be a substitute for ISDN because of the differences in pricing and features. As can be seen in Table 4, ISDN is priced at a significant premium to mobile. This is reflective of the differences in the product characteristics. As outlined in paragraph 76, ISDN has features such as supporting LAN connectivity, fast FTP utilisation, remote access to internal networks and back-up capabilities for leased lines which mobile cannot offer.

Table 4: Comparing ISDN and mobile offerings

Feature	Basic Rate Access ISDN	Primary Rate Access ISDN	VIVA post-paid Business Unlimited 20
Installation charge (BD)	BD 25	BD 200	N/A
Monthly rental (BD/month)	BD 8.500	35BD(10 channels) 63 BD (20 channels) 84 BD (30 channels)	BD 10.00
Charge for calls to fixed line	21 fils per 180 seconds	21 fils per 180 seconds	N/A
Charge for calls to mobile	21 fils per 90 seconds	21 fils per 90 seconds	N/A
On-net calls	N/A	N/A	Unlimited
Off-net calls	N/A	N/A	400

Source: Batelco and VIVA's websites, accessed on 11 August 2015.

105. On the supply-side, the two services are provided over different networks. Thus, it is highly unlikely that a supplier of mobile services could easily and profitably switch to the provision of ISDN services in response to a SSNIP for the ISDN product.
106. The Authority now considers the substitutability between IP-based solutions and ISDN.
107. The Authority has found that IP-based solutions of equivalent functionality (for instance, offering 2 or more channels per subscription) could be adequate substitutes for ISDN on a forward-looking basis. These solutions could be provided over WiMAX/LTE (wireless), ADSL2+ or SHDSL (copper), GPON or Ethernet P2P (fibre), etc.
108. IP-based solutions are still at a nascent stage in Bahrain. However, the functionality offered by the subset of these products aimed at larger businesses is comparable to ISDN. This is because, at a basic level, they offer technical solutions similar to those offered by the legacy telephone network but carried as digital packets over a packet-switched network instead of a circuit-switched network.

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109. IP-based solutions, like ISDN, also tend to offer more than just voice. For example, Etisalcom’s solution offers features such as back-up options for critical applications, fax lines and multiple trunks.
110. IP-products aimed at larger enterprises are considerably cheaper than comparable ISDN products at the moment, as seen in Table 5. The prices for the basic ISDN offering and comparable IP product are similar.

Table 5: Comparing ISDN and mobile offerings

Feature	Basic Rate Access ISDN	Etisalcom Small Business VoIP solution	Primary Rate Access ISDN, 30 channels	Etisalcom Enterprise Business VoIP solution
Installation charge (BD)	BD 25	BD 35	BD 200	BD 78
Monthly rental (BD/month)	BD 8.500	-	BD 84.00	
Number of lines/trunks	2	Single line	30	30
Number of fax lines	N/A	1	N/A	2
Charge for calls to fixed line	21 fils per 180 seconds	7 fils per 60 seconds	21 fils per 180 seconds	7 fils per 60 seconds
Charge for calls to mobile	21 fils per 90 seconds	14-18 fils per 60 seconds	21 fils per 90 seconds	14-18 fils per 60 seconds
On-net calls	N/A	Unlimited	N/A	18,000
Off-net calls	N/A	N/A	N/A	N/A

Source: Batelco and Etisalcom websites accessed on 11 August 2015

111. On examining subscriber and traffic data in Figure 20 and Figure 21, it appears that the take-up and use of IP-based solutions has increased in the last 3 years, although the absolute numbers are very low compared to ISDN.
112. The Authority expects that this may change moving forward. As the quality of infrastructure improves, the Authority expects the legacy ISDN technology to be phased out and businesses to switch to IP-based solutions.

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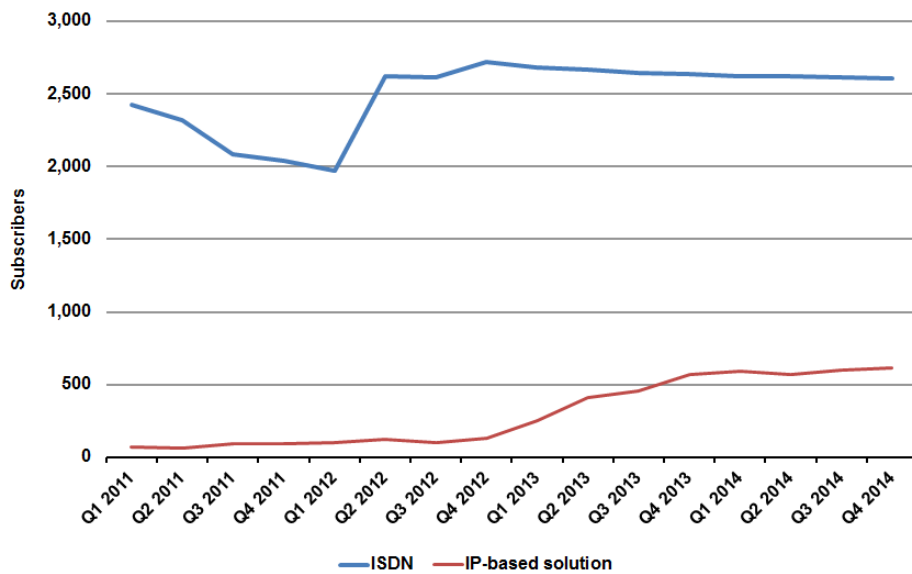
113. Indeed, Ofcom, the UK telecommunications services regulator, also found in its 2010 review of the ISDN30 market that it expected businesses to replace their systems and switch to IP-based solutions, although the rate of this switch was not clear.²⁴

²⁴ See “Review of retail and wholesale ISDN30 markets”, Ofcom, May 2010. Available at <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf>

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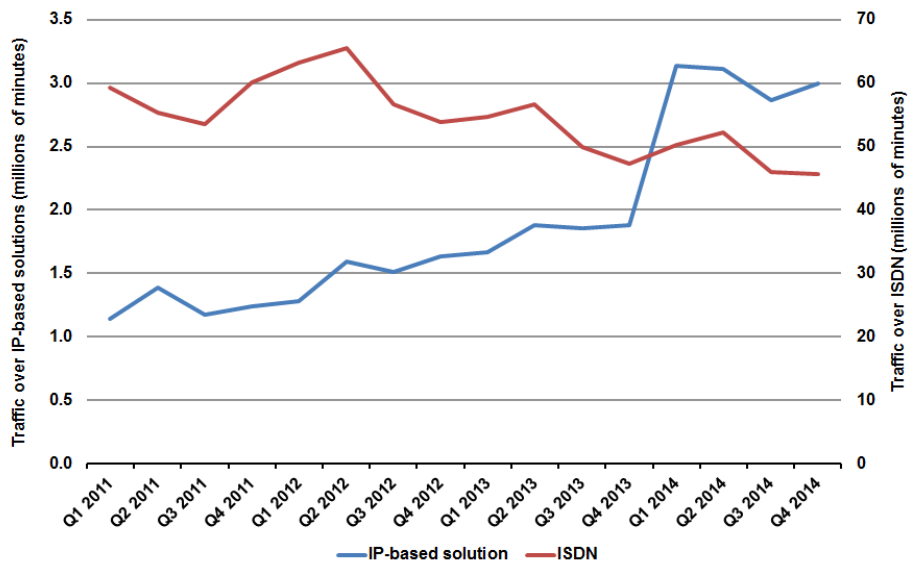
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Figure 20: Evolution of ISDN and IP-based solution subscribers in the Premium Access market



Source: The Authority's analysis of operator data

Figure 21: Evolution of traffic over ISDN and IP-based solutions in the Premium Access market



Source: The Authority's analysis of operator data

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114. On balance, on a forward-looking basis, the Authority is of the view that IP-based solutions of equivalent functionality form part of the relevant market for the provision of premium access to call services.
115. IP-based solutions of equivalent functionality would be ones which offer:
- a. Two or more voice channels; and/or
 - b. Advanced customer support (such as dedicated customer support, dedicated account manager, etc.).

5.2.4 Relevant geographic market

116. In considering the relevant geographic dimension of the market, a focus on demand-side substitution is likely to result in very narrow geographic markets, as the demand for domestic calls is location-specific. A customer requiring PSTN service at a fixed location (e.g. at home) is unlikely to regard PSTN services offered in a different geographic location (e.g. other city) as an economic substitute.
117. The geographic market for telecommunications services is therefore typically defined based on whether there are likely to be variations in the intensity of competitive conditions across different regions. The geographic area across which uniform prices are set is also a relevant consideration.
118. The products defined to be part of the relevant markets are offered on a national basis. For example, in the mass-market, Batelco's PSTN services are offered over its national network. Competing technologies, such as mobile, are also offered throughout the Kingdom. This is also true for the premium access market. ISDN is offered over Batelco's national network and IP-solutions are typically offered through wholesale access to Batelco's network, national WiMAX/LTE networks or through national mobile networks.
119. It is therefore unlikely that the degree of competition varies by region. The Authority's preliminary view is thus that the relevant geographic market for both mass-market and premium access to calls is national.

5.2.5 Preliminary conclusion on market definition

120. Given the above evidence, the Authority continues to believe that the relevant market is as suggested in the SMR.
121. That is, the market covers the relevant retail markets for access to call services including domestic calls from a fixed location, and is therefore defined as:
- a. The retail market for mass-market access to call services including domestic calls, which includes PSTN, mobile and IP-based solutions²⁵ of equivalent functionality, where equivalent functionality is defined to be the offer of:

²⁵ These will include domestic call products provided over WiMAX/LTE.

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- i. One voice channel; and/or
 - ii. Standard customer support.
- b. The retail market for premium access to call services including domestic calls from a fixed location, which includes ISDN and IP-based solutions²⁶ of equivalent functionality, where equivalent functionality is defined to be the offer of:
- i. Two or more voice channels; and/or
 - ii. Advanced customer support (such as dedicated customer support, dedicated account manager, etc.).
122. Both markets are defined to be national in scope.

Q1. Do you agree with the Authority's definition of the markets for mass-market access and premium access to domestic calls from a fixed location in Bahrain? If not, please explain why.

²⁶ These will include domestic call products provided over WiMAX/LTE.

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6 Assessment of whether there is SMP in the retail markets for access to domestic call services

123. Consistent with the Modified Greenfield approach,²⁷ the existing RTN Regulation has been excluded from the Authority's assessment of competition in the retail market.

Consequently, the Authority's assessment focuses on the competitive constraints that operate independently of any SMP finding in this market.

124. As outlined in the Authority's Competition Guidelines,²⁸ several factors can be considered in assessing SMP and dominance. Given the characteristics of the markets under consideration and their evolution since 2008, the most important factors are described briefly below:²⁹

- a. Market shares and existing competition: A current snapshot of market shares indicates the market power held by each operator. Analysing market shares over time reveals how competition is evolving and allows a forward-looking assessment. This is because the trend in market shares show whether competition is intensifying or weakening, and therefore if the market power of current operators is likely to decrease or increase.
- b. Barriers to potential entry and expansion: The extent to which the threat of potential entry or by expansion by other operators will be a constraint on existing operators will depend on whether barriers to entry or expansion are significant. Entry barriers occur when an existing operator in a market has an advantage over potential entrants. Barriers to expansion are similar but relate to the ability of an existing operator to expand. For example, where an existing competitor faces capacity constraints that limit its ability to increase its scale of production.
- c. Countervailing buying power: Countervailing buyer power refers to the ability of buyers to limit the ability of sellers to exercise market power. It refers to the relative bargaining power of buyers and sellers, and is most evident where buyers and sellers have to negotiate. Countervailing buyer power is enhanced where the following conditions apply:
 - i. the buyer is well-informed about alternative sources of supply;
 - ii. the buyer could switch to alternative sources of supply without incurring significant costs;
 - iii. the buyer could produce the input itself or "sponsor" new entry by another supplier; and

²⁷ See paragraph 19 above.

²⁸ See "Competition Guidelines: Guidelines issued by the Telecommunications Regulatory Authority", 18 February 2010 (Ref: MCD/02/10/019).

²⁹ The Authority also considered other factors such as evidence on prices and profits which have been discussed in other sections of this document, and the evidence found supports the conclusions of this section.

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- iv. the buyer is an important outlet for the seller and therefore the seller would be prepared to negotiate i.e. limited alternative buyers.

125. These factors are discussed in more detail separately for the mass-market and premium access to calls markets in the sections below.

6.1 Retail market for mass-market access to call services

126. This section carries out the competitive assessment for the retail market for mass-market access to call services which has been defined in Section 5.2 to include PSTN, mobile and IP-based solutions of equivalent functionality, where equivalent functionality is defined to be the offer of:

- a. One voice channel; and/or
- b. Standard customer support (which excludes additional services such as but not limited dedicated customer support, dedicated account manager, etc.).

6.1.1 Market shares and existing competition

127. Figure 22 shows that the market the market is served predominantly by the Batelco, Viva and Zain. The remaining players make up less than 2% of the subscriber market.

128. Since 2008, Batelco's market share has consistently declined. The fall in market share is most likely driven by the increasing uptake of mobile, which explains the increase in VIVA's market share over the same period.

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Figure 22: Subscriber market shares in the mass-market



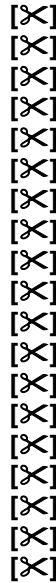
Source: The Authority's analysis based on operator data

129. When examining the market situation in terms of traffic carried in Figure 23, the importance of mobile is highlighted again. [REDACTED].

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Figure 23: Traffic market shares in the mass-market, 2014³⁰



Source: The Authority's analysis based on operator data

130. Figure 24 compares the trend in Batelco, VIVA and Zain's ARPU.³¹

[X][X][X][X][X][X][X][X]. The ARPU for all three have largely been falling.

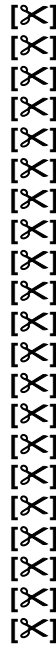
³⁰ Traffic shares cannot be shown over time as the ISDN traffic (not part of the mass-market) was included in the business PSTN traffic prior to 2013.

³¹ Batelco's revenue data available is not split between ISDN and business PSTN. Therefore, Batelco's ARPU excludes the ARPU from its business PSTN product. However, as seen in the section on relevant customer market, only the monthly charge differs by BD 1 between residential and business PSTN products. Furthermore, the subscriber numbers for residential and business PSTN users were similar in 2014. Thus, the residential PSTN ARPU is likely to be reflective of the business PSTN ARPU.

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Figure 24: Evolution of operator's ARPUs for mass-market



Source: The Authority's analysis of operator data

131. Moreover, the constraint on Batelco's pricing comes primarily from mobile providers who operate their own networks and are not dependent on any wholesale access products. Thus, even in the absence of wholesale regulation, it is unlikely that the market outcomes would be very different.
132. While the market share of each of the three largest players is in excess of the 25% threshold after which SMP can be considered, the Authority does not view this to be indicative of a competition problem. VIVA's market share has increased over time and does not stem from any inherent advantages, such as those that would usually come from being a former incumbent. Batelco's market shares have been declining over time and other market indicators (prices, ARPUs, etc.) suggest that competition has evolved in the market.
133. Furthermore, the competition guidelines require that a finding of SMP be based on a market share threshold of 25%, so long as this is supported by other evidence. As discussed, this does not appear to be the case.
134. On balance, given the evolution of market shares and ARPUs and the current split of traffic in the market, the Authority's preliminary finding is that this market appears to be competitive.
135. However, it is worth pointing out the constraint from mobile may not apply equally to business and residential PSTN. As was seen in Section 5.2 when identifying the relevant market, the evidence on switching between business PSTN and mobile was not as strong

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as that between residential PSTN and mobile. Thus, the Authority's finding of competition comes with a note of caution that users of business PSTN products may be at risk of anti-competitive behaviour.

136. For this reason, the Authority preliminarily maintains that the market is likely to be competitive. However, the Authority will continue to monitor the developments in the business PSTN product and intervene if it appears that the users of business PSTN products are subject to competitive harm.
137. In conclusion, and in keeping with the Modified Greenfield Approach, the Authority is of the preliminary view that absent regulated access at the wholesale level, there would still be competition in the retail market for mass-market access to call services.

6.1.2 Potential entry and expansion

138. The Authority finds that the easiest way to enter this market would be through the provision of IP-based solutions. Any provider of broadband services, either over their own infrastructure or through the use of Batelco's wholesale access products could plausibly enter this market.³²
139. As for mobile, a new entrant would need a mobile licence to be able to offer mobile services and the Authority is not aware of future plans to increase the number of licensees.
140. The Authority therefore finds that the barriers to entry in this market, while not non-existent, are not insurmountable. However, it is worth noting that there has been very little new entry in this market since the last review.
141. Barriers to expansion are likely to be low, given that all operators in this market offer their services nation-wide.

6.1.3 Countervailing buyer power

142. The demand for mass-market access to calls at the retail level is highly fragmented. It is therefore unlikely that any individual customer can exert enough pressure on an operator to affect pricing decision.
143. The Authority therefore finds it unlikely that customers of mass-market access to call services have any countervailing buyer power.

6.1.4 Preliminary conclusion on SMP

³² Technically, it is possible to enter the market through the provision of a fixed voice service over Batelco's fixed copper network through the bitstream products or LLU. It is also possible to enter this market via the Carrier Pre-Selection (CPS) product.

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144. The Authority acknowledges that three largest operators have a combined market share in excess of 90%. However, the operators appear to constrain each other's pricing decisions based on the evolution of market shares and ARPU's.

145. The Authority's preliminary view is that the market for mass-market access to calls is effectively competitive and that no operator holds SMP, owing primarily to the strong competitive constraint exerted by mobile.

Q2. Do you agree with the Authority's view that that no operator holds SMP in the retail market for mass-market access to domestic calls from a fixed location? If not, please explain why.

6.2 Retail Market for premium access to call services

146. This section carries out the competitive assessment for the retail market for premium access to call services which has been defined in Section 5.2 to include ISDN and IP-based solutions of equivalent functionality, where equivalent functionality is defined to be the offer of:

- a. Two or more voice channels; and/or
- b. Advanced customer support (such as dedicated customer support, dedicated account manager, etc.).

6.2.1 Market shares and existing competition

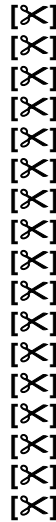
147. Subscriptions numbers in the premium access market are considerably lower than in the mass market. Overall the market only comprises around 3,100 subscriptions as of the end of 2014. As seen in Figure 25, Batelco has over 80% subscriber market share since 2010.

148. Although the number of subscribers for operators offering IP-based solutions (such as Lightspeed) has increased in recent years, a significant proportion of users continue to use Batelco's ISDN product.

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Figure 25: Evolution of subscriber market shares in the premium access market³³



Source: The Authority's analysis of operator data

149. The traffic market shares are also skewed towards Batelco. As Figure 26 shows, the majority of traffic was generated by Batelco's ISDN product rather than the IP-based solutions.³⁴

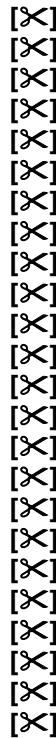
³³ Since the merger between Kalaam and Lightspeed occurred in 2015, they are shown as separate entities prior to 2015 for the purpose of this review.

³⁴ Traffic data for Nuetel was not available for 2014. However, based on previous year's traffic data, it is unlikely to change the fact that the vast majority of traffic was carried over Batelco's network.

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Figure 26: Evolution of market shares for domestic traffic originated from premium access



Source: The Authority's analysis of operator data

150. Batelco's high shares of subscribers and traffic have also translated into high revenue market shares. More than 90% of revenues in the premium access market accrued to Batelco's ISDN services in 2014. Although disaggregated data on revenues is not available prior to Q3 2012, Figure 27 shows that Batelco's share has consistently stayed above 90%. This could be indicative of limited competitive constraints from other operators in the market.

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Figure 27: Evolution of revenue market shares



Source: The Authority's analysis based on operator data

- 151. Based on an analysis of market shares over time, it therefore appears that Batelco has not been subject to competitive constraints from other operators.
- 152. Other market outcomes also indicate that Batelco has not been constrained in its pricing of the ISDN product.
- 153. Since the time that the RTN Regulation was introduced, Batelco has not submitted any NCTs to lower/change the retail tariffs of ISDN products. However two NCTs have been submitted in 2014 to introduce and subsequently modify fixed voice “add-ons” (through increasing the volume of fixed voice minutes to other domestic lines included in packages and then offering unlimited minutes).
- 154. Additionally, ISDN is a legacy technology and the Authority considers that there are more cost-effective and efficient ways, such as SIP trunking, to provide multi-channel voice services. According to its website, Batelco does not appear to offer such SIP trunking solutions as yet. This may be an indication of market power.

6.2.2 Potential entry and expansion

- 155. There is very limited opportunity for firms to enter the ISDN segment as suggested by the lack of competitors in this market; there were only 2 providers of ISDN at the end of 2014 according to market data provided by operators.

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156. Of the regulated wholesale products on offer at the moment, the Local Loop Unbundling product would allow ISDN to be offered. LLU has seen close to no take-up in Bahrain for the provision of ISDN, which is to be expected given that ISDN is a legacy technology. A new entrant could also, in theory, enter the market by offering ISDN as part of a bundled offer using the E1 wholesale leased line.
157. As with the mass-market, the Authority finds that the easiest way to enter the premium access market would be through the provision of IP-based solutions. There has been an increase in the provision of IP-based solution in recent periods, as evidence of this. A provider of broadband services, either over their own infrastructure or through the use of Batelco's wholesale access products could plausibly introduce an IP-based solution.
158. The Authority therefore finds that although there are some barriers to entry in this market, they are not insurmountable. There is scope for new entry through the provision of IP-based solutions.
159. Barriers to expansion are likely to be low, given that all operators in this market offer their services nation-wide.

6.2.3 Countervailing buyer power

160. Although customers in the premium access markets are generally large enterprises, there are still enough subscribers in the market for any one subscriber to not be able to unilaterally exert buyer power. Furthermore, the Authority's business survey data shows that ISDN customers are less willing to switch to alternative products, suggesting that there is a limited choice of alternatives to Batelco's ISDN services.

6.2.4 Preliminary conclusion on SMP

161. The Authority's preliminary conclusion is that the retail market for premium access products is not effectively competitive, but that it could become prospectively competitive if the wholesale remedies available are 'fit-for-purpose'. Batelco maintains a very higher market share in this market as measured by traffic minutes and revenues. Furthermore data from the Business survey shows that ISDN consumers are, overall, not willing to switch to alternative solutions in the event of a SSNIP.
162. Based on the above, the Authority's preliminary view is that the market is not effectively competitive and that Batelco holds SMP in the re-defined retail market (i.e. the retail market for premium access to call services including domestic calls from a fixed location).

Q3. Do you agree with the Authority's view that that Batelco has SMP in the retail market for premium access to call services including domestic calls from a fixed location? If not, please explain why.

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Q4. Under what circumstances do you think such market (i.e. retail market for premium access to call service including domestic calls from a fixed location) could be deregulated?

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7 Overall conclusions on SMP and implications

163. In this section, the Authority summarises its preliminary conclusions on whether any operator has SMP in the relevant market. The Authority also sets out the implications of such conclusions in terms of the regulatory obligations that would be imposed on operators at both the retail and the wholesale level to remedy such positions of SMP / dominance.

7.1 Summary of findings and preliminary conclusions

164. The Authority last reviewed the retail market for domestic calls in the 2008 SMP Determination.

165. In that Determination, the Authority defined four separate retail markets and determined that Batelco had SMP in all four. Namely, these were:

- a. The retail market for fixed narrowband access services for residential customers. (Market 1a)
- b. The retail market for fixed narrowband access services for non-residential customers. (Market 1b)
- c. The retail market for fixed originated domestic calls for residential customers to either fixed or mobile subscribers within the Kingdom of Bahrain. (Market 2a)
- d. The retail market for fixed originated domestic calls for non-residential customers to either fixed or mobile subscribers within the Kingdom of Bahrain. (Market 2b)

166. Following the 2008 SMP Determination and the issuance of the Retail Tariff Notification (RTN) Regulation in 2010, the services that Batelco supplies in the retail market for fixed narrowband access (market 1a and market 1b) and fixed originated domestic calls (market 2a and market 2b) are subject to tariff controls.

167. Since 2008, there have been a number of developments in these markets. Most notably, the key ones being:

- a. Increased competition in the market for domestic calls arising from the widespread uptake of mobile services and the strong degree of competition between the three main operators Batelco, Zain and Viva, which has resulted in falling prices and increased traffic minutes.
- b. The emergence of new technologies such as IP-based solutions, which are beginning to replicate the services traditionally provided by PSTN and ISDN technologies.

168. The relevant retail markets has consequently been redefined as:

- a. Retail market for mass-market access to call services including domestic calls from a fixed location; and

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- b. Retail market for premium access to call services including domestic calls from a fixed location.
169. Given the competitive assessment carried out in Section 6, it is the Authority’s preliminary view that no licensee has a position of SMP in the retail market for mass-market access to call services including domestic calls from a fixed location, whilst Batelco does possess SMP in the retail market for premium access to call services including domestic calls from a fixed location.

7.2 Implications

170. In the event that the Authority makes a final determination that no licensee has SMP in the retail market for mass-market access to call services including domestic calls from a fixed location, Batelco will no longer be subject to tariff controls under Article 58 of the Telecommunications Law and the RTN Regulation in respect of such services. As a result, Batelco will no longer be required to notify the Authority of any changes to Batelco’s retail tariffs for these services.
171. In the event that the Authority makes a final determination that Batelco has SMP in the retail market for premium access to call services including domestic calls from a fixed location, Batelco will be subject to tariff controls under Article 58 of the Telecommunications Law and the RTN Regulation in respect of such services. As a result, Batelco will be required to notify the Authority of any changes to Batelco’s retail tariffs for these services.
172. Batelco will also continue to be required to offer CPS for such services. This is because the Telecommunication Law³⁵ requires all SMP operators to provide CPS services.

Q5. Do you agree with the Authority’s overall conclusions and the resulting implications? If not, please explain why.

³⁵ See Article 40, Telecommunications Law of the Kingdom of Bahrain. Available at <http://www.tra.org.bh/media/document/TelecommunicationsLaw-secondedition-English.pdf>

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Annex 2 – Findings in the Strategic and Retail Market Review 2008

Annex 2: Findings in the Strategic and Retail Market Review 2008

A2.1 Market definition

173. As mentioned in Section 3, the Authority came to the conclusion that the relevant markets should be defined as:

- a. The retail market for fixed narrowband access services for residential customers. (Market 1a);
- b. The retail market for fixed narrowband access services for non-residential customers. (Market 1b);
- c. The retail market for fixed originated domestic calls for residential customers to either fixed or mobile subscribers. (Market 2a); and
- d. The retail market for fixed originated domestic calls for non-residential customers to either fixed or mobile subscribers. (Market 2b).

174. The reasoning behind this market definition is discussed next.

A2.1.1 *Separating access and calls markets for fixed line services*

175. After considering operator responses regarding the subject, the Authority noted that there was some merit in the arguments that there was limited demand-side substitutability between fixed access and calls at the time. It was argued that the two products were complements rather than substitutes and were not always sold as a bundle. Furthermore, the degree of competition in the two markets was found to be different with several OLO's competing with Batelco in the market for call services.

176. Supply-side substitutability was also argued to be limited because of the inability to switch from calls to access given the costs involved in rolling out a local access network.

177. The Authority therefore defined the markets for access and calls separately. This approach was also compatible with the approach taken by the European Commission at the time.³⁶

³⁶ See e.g. European Commission, Recommendation on the 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 communication networks and services, 2003/311/EC.

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A2.1.2 Customer Level Segmentation

178. The Authority noted that it was necessary to consider two aspects of market definition when choosing whether to divide the market between business and residential customers. These were:

- a. Possible demand-side substitutability, i.e. the extent to which services offered to business and residential customers are different; and
- b. Possible supply-side substitution between providing access services to business and residential customers.

179. On the demand side, the Authority noted the range of fixed access services available in the market. These included both fixed PSTN³⁷ and ISDN services, broadband internet services and leased line services.³⁸

180. Batelco was able to differentiate its products between customer segments and sustain this differentiation. The Authority therefore found sufficient evidence to suggest that a business faced with an increase in the relative price of business line rental would be unable to switch to a residential service.

181. Furthermore, the Authority noted the different expectations that each group may have regarding their service. They cited the expectations regarding fault repair as an example of where these differences may manifest themselves.

182. On the supply side, the Authority found that a hypothetical monopolist provider of residential narrowband access could reasonably sustain a SSNIP above the competitive level due to high barriers to entry faced by a supplier of narrowband access to businesses.

183. Given these explanations the Authority made the decision to separate the market for business and residential customers for both the access and calls markets.

A2.1.3 Fixed-mobile substitutability in the narrowband access markets

184. The Authority's analysis also considered the extent to which fixed and mobile access formed part of the same market.

185. From a demand-side substitutability perspective, the Authority considered the following:

- a. The nature of the services offered by providers - The Authority noted that a mobile connection allowed the consumer to make calls from any location whereas a fixed line only allowed access at home.

³⁷ As has been mentioned, Public Switched Telephone Network ("PSTN") technically includes all networks i.e. POTS, ISDN, Managed VoIP, mobile networks etc. However, the 2008 Review used "PSTN" as shorthand for the traditional fixed voice service provided over the fixed access copper network i.e. POTS. This applies to the current market review as well i.e. the fixed voice service over the copper fixed access network is referred to as "PSTN" throughout this document.

³⁸ The Authority considered Leased Lines to be a separate market and so excluded them from their analysis on this topic.

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- b. The levels of penetration of both services - The Authority hypothesised that, given the increase in penetration of mobile devices in Bahrain, if there were a high degree of substitutability between the two types of access products then the increase in the use of mobile devices would lead to a decrease in households owning fixed lines. This was not the case in Bahrain where the amount of fixed line customers had been unaffected by the increase in mobile penetration.

186. Thus, the two were not found to be demand-side substitutes.

187. On the supply side, the Authority concluded that it would be difficult for a supplier of mobile services to enter the market for fixed services in response to a SSNIP from a hypothetical monopolist. This was due to high sunk costs associated with establishing a fixed network.

188. An operator in the market for fixed services would also be unable to enter the mobile services market immediately as licenses to operate in the market are controlled by the Authority.

189. The fixed access markets were therefore not defined to include mobile access.

A2.1.4 Fixed-mobile substitutability in the calls markets

190. The Authority also analysed the extent to which fixed and mobile originated calls formed part of the same market.

191. The Authority considered that if fixed and mobile originated calls were in the same market, there would be evidence of substitution between the two call types following changes in their relative prices. However, there had been limited price changes for domestic calls since liberalisation and so, limited available evidence of any switching.

192. Furthermore, the trends in call volumes did not suggest there was switching between fixed and mobile. Specifically, there was no evidence of falling volumes of fixed line traffic, which would have been expected if customers were switching from fixed to mobile to make domestic calls. Also, it was found that mobile calls were considerably more expensive than those originated on a fixed network.

193. Given this, mobile call services were not included in the market for fixed domestic call services.

A2.2 Competitive assessment

194. In the 2008 Review, the Authority came to the view that Batelco had SMP, and that there was insufficient competition, in all four of the relevant markets, including the market for residential and non-residential domestic call services based on an analysis of market shares, barriers to entry, market developments, etc. as per the competition guidelines.

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A2.2.1 Narrowband access markets

195. With regards to the narrowband access markets, the Authority found in its 2008 Review that Batelco had a volume market share of greater than 90% in both the residential and non-residential markets and that no significant changes had occurred in Q1 and Q2 2007.
196. Batelco enjoyed a greater than 90% market share in the domestic calls market in Q2 2007. Whilst the company's market share had decreased from 100% in 2006 the Authority noted that the introduction of wholesale products through OLO's had done little to challenge Batelco's monopoly position.
197. Furthermore, the barriers to entry in the fixed access markets for non-residential and residential customers were found to be high. Most of the costs of Batelco access network are sunk in nature and so, Batelco's network would not be easily duplicated.
198. The Authority noted the need to provide effective wholesale upstream regulation to prevent Batelco utilising its dominance of the underlying infrastructure to leverage market power at a downstream level to hinder the development of competition.
199. The Authority found that the impact of the competitive entry of Zain and Mena Telecom in these markets was difficult to predict at the time. However, in the relevant time horizon, it seemed unlikely that it would exert strong competitive pressure on Batelco.
200. The Authority therefore concluded that Batelco had SMP in the fixed access markets for residential and non-residential customers.

A2.2.2 Fixed originated domestic calls markets

201. The Authority concluded that Batelco's market share was almost 100% in the markets for fixed originated domestic calls and that its monopoly position had not been challenged despite the introduction of wholesale products.
202. Furthermore, the Authority could not predict the potential effect of the entry of the two National Fixed Wireless Services ("NFWS") licensees at the time. The Authority considered that their entry was unlikely to undermine Batelco dominance in the fixed originated domestic calls markets over the relevant time frame.
203. The Authority therefore concluded that Batelco had SMP in the residential and non-residential fixed originated calls markets and that there was insufficient competition in these markets.

A2.3 Conclusions

204. In the 2008 Review, the Authority determined the relevant markets to be defined as:
 - a. The retail market for fixed narrowband access services for residential customers. (Market 1a);

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- b. The retail market for fixed narrowband access services for non-residential customers. (Market 1b);
 - c. The retail market for fixed originated domestic calls for residential customers to either fixed or mobile subscribers within the Kingdom of Bahrain. (Market 2a); and
 - d. The retail market for fixed originated domestic calls for non-residential customers to either fixed or mobile subscribers within the Kingdom of Bahrain. (Market 2b)
205. Batelco was found to have Significant Market Power in all four of the relevant markets (1a, 1b, 2a, 2b).

Market and Competition Review of the Retail Markets for Access to Call Services including Domestic Calls from a Fixed Location

Annex 3 – List of questions

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- Q1. Do you agree with the Authority's definition of the markets for mass-market access and premium access to domestic calls from a fixed location in Bahrain? If not, please explain why.
- Q2. Do you agree with the Authority's view that that no operator holds SMP in the retail market for mass-market access to domestic calls from a fixed location? If not, please explain why.
- Q3. Do you agree with the Authority's view that that Batelco has SMP in the retail market for premium access to call services including domestic calls from a fixed location? If not, please explain why.
- Q4. Under what circumstances do you think such market (i.e. retail market for premium access to call service including domestic calls from a fixed location) could be deregulated?
- Q5. Do you agree with the Authority's overall conclusions and the resulting implications? If not, please explain why.

Market and Competition Review of the Retail Markets for Access to Call Services including Domestic Calls from a Fixed Location

Annex 4 – List of tables and figures

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