

DRAFT STATEMENT

Regulation of Mobile Termination Services

The Regulation of Mobile Termination Services

Draft Statement

25 November 2008

Public version

Request for comments:

TRA invites comments on this consultation document from all interested parties. Comments should be submitted before 1 March 2009.

The address for responding to this document is:
The General Director
Telecommunications Regulatory Authority
P.O. Box 10353, Manama, Kingdom of Bahrain

Alternatively, responses may be sent to TRA for the attention of the General Director by email to consult@tra.org.bh

Purpose: To define the position of TRA on the regulation of mobile termination services.



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Regulatory
Authority

DRAFT DETERMINATION

Draft Dominance Determination

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Instructions for submitting a response

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The General Director
Telecommunications Regulatory Authority
P.O. Box 10353, Manama, Kingdom of Bahrain

Alternatively, responses may be sent to TRA for the attention of the General Director by email to consult@tra.org.bh.

Responses should include:

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

In the interest of transparency, TRA will make all submissions received available to the public, subject to the confidentiality of the information received. TRA will evaluate requests for confidentiality in line with relevant legal provisions and TRA’s published guidance on the treatment of confidential and non-confidential information.¹

Respondents are required to clearly mark any 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. TRA may publish or refrain from publishing any document or submission at its sole discretion.

Once TRA has received and considered responses to this consultative document, TRA will issue a final version of the Statement, together with the report on the consultation.

¹ TRA, 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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List of Acronyms

| | |
|-----|---|
| BD | Bahraini Dinar |
| EC | European Commission |
| ERG | European Regulators Group |
| FTM | Fixe-to-Mobile |
| MNO | Mobile Network Operator |
| MMS | Multimedia Messaging Service |
| MTM | Mobile-to-mobile |
| MTR | Mobile termination rates |
| OLO | Other licensed operator |
| SMS | Short Message Service |
| TRA | Telecommunications Regulatory Authority of the Kingdom of Bahrain |

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Regulation of Mobile Termination Services

1. Introduction

1. This Draft Statement defines the position of TRA on the regulation of termination services on mobile networks. More specifically, this Draft Statement:
 - outlines the legal framework applicable for operators designated dominant in the provision of termination services on mobile networks;
 - discusses the rationale for regulating termination services;
 - describes the interconnection arrangements currently in place between Bahrain Communications Company B.S.C (“Batelco”) and MTC-Vodafone Bahrain B.S.C (“Zain”);
 - discusses how termination rates can be set to comply with the requirement of the Telecommunications Law promulgated by the Legislative Decree No.48 of 2002 (“Telecommunications Law”) and the decision by TRA to develop its own cost model;
 - sets out the position of TRA on symmetry; and
 - outlines how TRA intends to deal with the third mobile network operator (“MNO”).
2. This Draft Statement should be read in conjunction with the Draft Dominance Designation for termination services on individual mobile networks (“Dominance Determination”) issued by TRA (Ref: MCD/11/08/092) in which TRA has defined relevant termination markets, analysed competition therein and concluded that Batelco and Zain are dominant in their respective termination markets.
3. The Draft Statement has two Annexes. The first one contains a benchmark of termination rates and the second one an empirical analysis of asymmetry of termination rates in Europe.

What are wholesale termination services on mobile networks?

4. In order to provide retail mobile services, MNOs need various inputs. One such input is termination services. Wholesale call termination on mobile network is the service that allows the customer of a mobile network to call a customer of another mobile network. It is a wholesale service because it is sold and purchased by MNOs rather than retail customers. Without termination, customers of an operator would only be able to reach customers of the same network. In other words, wholesale termination is necessary for a communication between two customers of different networks (i.e. an “off-net” communication) but not for a communication between subscribers that belong to the same mobile operator (i.e. an “on-net” communication) in which case it is self-supplied.
5. Wholesale termination on mobile networks is also relevant for customers of fixed networks calling customers of mobile networks as well as for off-net Short Message Services (“SMS”) and Multimedia Messaging Services (“MMS”). Hence, it is also purchased by fixed operators for terminating fixed originated calls on mobile networks.

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Why care about mobile termination rates?

6. TRA has the duty to promote effective and fair competition between new and existing operators and the protection of the interests of users in respect to pricing, availability, and quality of services offered.
7. Mobile termination rates constitute a significant element of the total cost of communications to mobile subscribers.² It is therefore important for TRA to address any market failure that can arise in the supply of mobile termination services and to ensure that the interests of consumers are protected.
8. The significance of mobile termination rates should not be underestimated. Mobile services represent approximately 50% of the total revenues of the telecommunications sector in Bahrain; total revenues stood at BD285M in 2007.³
9. Termination rates may also affect competitive dynamics between MNOs via their impact on Mobile-to-Mobile (“MTM”) rates and on the retail pricing strategies deployed (e.g. high off-net rates or bundled free on-net minutes in post-paid packages) by MNOs.

2. Legal framework

10. According to the Telecommunications Law, operator(s) declared dominant in interconnection markets are imposed specific regulatory obligations, including the publication of an approved reference offer and the obligation to offer tariffs based on forward-looking incremental cost.
11. More specifically, Section 57(b) of the Telecommunications Law, which deals with interconnection, states:

“A public telecommunications operator determined by the Authority to have a dominant position in a particular telecommunications market shall, within three months of such determination and every six months thereafter, publish a reference Interconnection offer. Such offer shall set out a full list of basic interconnection services, condition of interconnection and tariff of every service.

The Authority may issue an order specifying the terms and tariffs if it does not approve the contents of such offer in this respect, which order shall be effective from the date of issue, unless the Authority specifies another date.

² For example, based on the current approved rates, the termination rate of Batelco represents about 47% of the price of a 3 minute fixed-to-mobile (“FTM”) call from the Batelco fixed network. Hence, other things being equal, high termination rates translate into higher retail prices to consumers for off-net mobile communications and for FTM calls.

³ See TRA, Telecommunications Services Indicators, 30 October 2008, available at <http://www.tra.org.bh/en/pdf/TelecommunicationsServicesIndicatorsReport301008.pdf>

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Such tariff and terms shall be fair and reasonable and non-discriminatory and tariffs shall be based on forward-looking incremental costs and by benchmarking such tariffs against tariffs in comparable telecommunications markets”

12. Until now, only Batelco was designated dominant for termination services and consequently had the obligation to prepare a reference interconnection offer setting rates for termination services on its mobile network.⁴
13. This contrasts with the situation for Zain, which, until now had no specific obligations with regards to its termination rates. According to Section 57(b) of the Telecommunications Law, within three months of the entry into force of the Dominance Determination, Zain will be required to submit for approval a reference interconnection offer.
14. Once Zain’s reference offer is in place, the tariffs included therein will be available to all licensed operators.

3. Rationale for the regulation of termination rates

15. Whilst the legal framework in place is clear with regard to the obligations that flow from a dominance designation, it is useful to outline the reasons for regulating termination rates.
16. The rationale for regulating termination rates is to ensure that they are set at an efficient level, consistent with economic efficiency. In the absence of regulation, MNOs face no competitive pressures on termination rates. They have the ability and incentive to set high termination rates and have no incentives to keep cost down. If left unregulated, MTRs would most likely be set above cost and this would lead to excessive prices overall. Termination rates set at levels in excess of cost would lead to distortions of competition and be detrimental to consumers. This is consistent with the economic literature on MTRs.
17. Until recently (see below), the economic literature was somewhat inconclusive with regard to the level of MTRs at equilibrium between competing MNOs. A series of papers concluded that high MTRs could be an instrument to foster a collusive outcome.⁵ Since this would lead to charges being set at the monopoly level, it would be detrimental to consumers. By contrast, Gans and King (2001), demonstrated that by negotiating low MTRs (i.e. below cost), competing MNOs could soften competition at the retail level.⁶ By reducing the benefits of attracting new subscribers, below cost MTRs would reduce the intensity of competition for retail customers.

⁴ The relevant determination is the *Determination of Dominance in Interconnection Markets* issued by TRA the 9 August 2003. The latest tariffs are applicable since 1 July 2008.

⁵ See, Laffont, Rey and Tirole, 1998, “Network Competition: I. Overview and Nondiscriminatory Pricing,” *Rand Journal of Economics*, 29(1), 1–37; Armstrong, 1998, “Network Interconnection in Telecommunications,” *Economic Journal*, 108(448), 545–564; and Carter, M. and J. Wright (1999), “Interconnection in Network Industries,” *Review of Industrial Organization*, 14 (1), pp.1-25.

⁶ Gans and King, 2001, “Using ‘Bill and Keep’ Interconnect Agreements to Soften Network Competition,” *Economics Letters*, 71(3), 413–420.

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Those contrasting findings rest on two main assumptions: whether there is on-net / off-net price discrimination and whether consumers face linear prices on a per call or per minute basis.

18. However, a recent paper by Armstrong and Wright (2008), which build on and expand previous models, demonstrates that MNOs of similar sizes will set MTRs above cost, but below the monopoly level.⁷ The model takes into account both network and call externalities. The intuition is that by setting MTRs below the monopoly level, competing operators avoid the intensification of competition through network effects (or more precisely restricted club effects), which are themselves generated by on-net / off-net price discrimination. However, where MNOs have asymmetric sizes, the larger MNOs may prefer to reinforce network effects by increasing MTRs with a view to make it harder for the small MNO to compete. This may also be true when faced with the threat of new market entry.
19. Competition issues and distortions may also arise as a result of high MTRs. With regards to off-net / on-net price discrimination, since operators seek to minimise interconnection payments, the greater the MTRs are relative to costs, the larger the incentives to price discriminate between off-net and on-net tariffs. Large off-net / on-net price discounting may raise competition issues, especially at a time when a new entrant is about to enter the market.⁸ Off-net / on-net discounting tends to favour operators with large customer bases.
20. Incumbent MNOs could also set discriminatory MTRs (i.e. higher MTRs) to a new entrant, though TRA appreciates that the possibility for the new entrant to transit through Batelco fixed network for terminating traffic on existing MNOs would reduce the extent to which MNOs can price discriminate.
21. Too high termination rates can also lead to distortions and hence to an inefficient allocation of resources. It distorts consumer choices and affects competition between fixed and mobile networks.
22. The effect of regulation on MTRs can be seen in Figure 1. Between 2004 and 2008, termination charges for voice and SMS on the Batelco mobile network have declined by 42% and 88% respectively. This represents a decrease of respectively 13% and 41% on average per annum. By international standards, the level of MTRs in Bahrain compares well (See Annexe 1 below for a benchmark with European countries and Australia and New Zealand).

⁷ Armstrong, and Wright, 2008, Mobile Call Termination, MPRA Paper No. 9866, July, available at: <http://mpra.ub.uni-muenchen.de/9866>. They also show that with a large number of MNOs, MTRs will be set at the monopoly level.

⁸ See TRA, Draft Competition Guidelines, 4 November 2008, Section 4.9.

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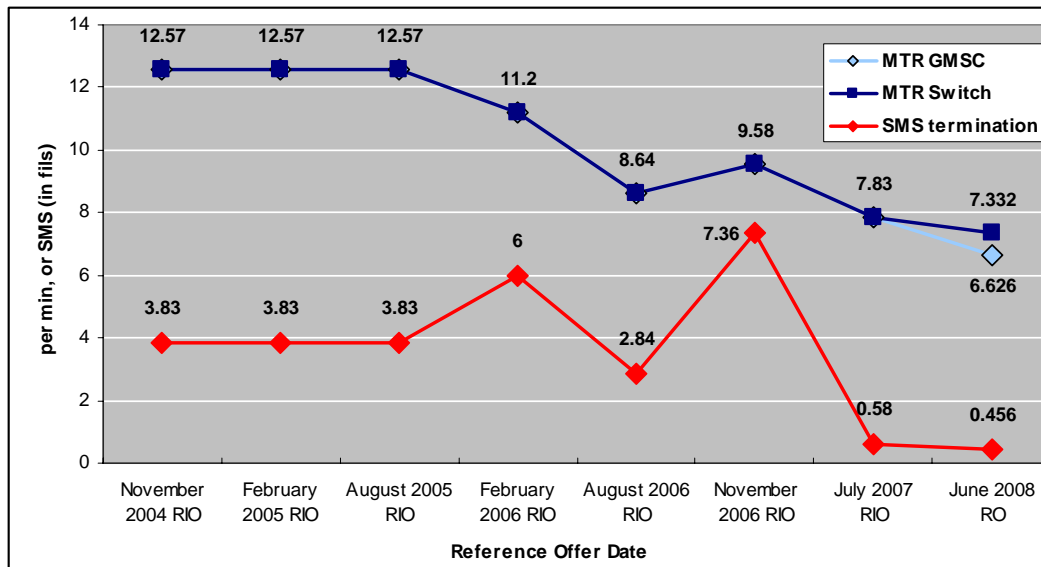


Figure 1: The evolution of regulated termination rates on Batelco's mobile network

23. The decision by TRA to regulate the MTRs of incumbent MNOs is consistent with the regulatory treatment of MTRs in Europe, where voice call termination on individual mobile networks is included in the list of relevant markets susceptible to ex-ante regulation.⁹

4. Interconnection arrangements in place

24. In terms of interconnection arrangements in place, TRA understands that Batelco and Zain interconnect directly and that a few Other Licensed Operators (“OLOs”) also interconnect directly with Zain. OLOs have direct interconnection agreements with Batelco. OLOs, which do not have direct interconnection with Zain, use Batelco as a transit operator to terminate traffic on Zain’s network.
25. Interconnection agreements with Zain are governed by commercial terms. In January 2005, TRA issued a Determination settling an interconnection dispute between Batelco and Zain.¹⁰ This Determination set out, inter alia, the termination rate on Zain’s network applicable to Batelco until 31

⁹ EC, Commission Recommendation on relevant product and service markets within the electronic communications sector susceptible to ex-ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, C(2007) 5406 rev 1. MTRs met the three cumulative criteria set used by the EC. The three criteria are: high and non-transitory barriers to entry; no tendency towards effective competition; and insufficiency of competition law to address market failure identified.

¹⁰ TRA, 2005, Determination issued by the Telecommunications Regulatory Authority to Bahrain Telecommunications Company B.S.C and MTC Vodafone (Bahrain) B.S.C pursuant to section 57(g) of the Telecommunications Law, 3 January 2005.

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December 2005 and discussed the issue of asymmetric rate.¹¹ On 29 January 2006 Batelco and Zain signed a supply agreement which, inter alia, [**REDACTED CONFIDENTIAL INFORMATION**]

5. Setting termination rates

26. In accordance with the Telecommunications Law, the interconnection products of dominant operators must be based on forward-looking incremental costs. Section 57(b) of the Telecommunications Law states:

“Such tariffs and terms shall be fair and reasonable and non-discriminatory and tariffs shall be based on forward-looking incremental costs and by benchmarking such tariffs against tariffs in comparable Telecommunications markets.”

27. The rationale for including this pricing principle in the Telecommunications Law is that cost-based pricing is welfare enhancing, promotes efficient investment decisions and the development of competition.¹² It gives efficient price signals to the market and leads to an efficient allocation of resources as buyers only pay for the cost they cause. Excessive profits and monopoly rents are not passed on to consumers and hence there are no distortions of consumption. Cost-based prices are consistent with what can be expected in a competitive market.
28. Setting cost based termination rates necessitates the development of cost models. Two main types of models can be used to derive incremental costs.¹³ Top-down models use actual cost data of the operator under consideration, expressed typically in current cost terms, and allocate only costs incremental to the relevant services. By contrast, bottom-up models are engineering models which use network dimensioning rules to estimate the costs of an efficient modern equivalent network. Thus, a bottom-up model involves a greater degree of optimization than achievable with top-down models. These two types of models are often used in conjunction. Top-down models tend to produce higher unit cost than bottom-up models.

¹¹ The period applicable for the rate set in the January 2005 was amended by the Determination of 4 of 2005 issued by the Telecommunications Regulatory Authority Amending Determination 1 of 2005 issued on 3 January 2005 to Bahrain Telecommunications Company B.S.C and MTC Vodafone (Bahrain) B.S.C pursuant to section 57(g) of the Telecommunications Law, 21 November

¹² This holds when there are no externalities (See Armstrong, 1998, and Laffont, Rey, Tirole, 1998, reference in footnote 5 at page 3). Departure from cost orientation may be warranted where there are externalities, and when these are significant. In the case of MTRs, network externalities, may warrant a mark-up above cost, in recognition for the social benefits that a large diffusion of mobiles services give rise to. Network externalities are significant where mobile penetration is increasing rapidly but are much less so in saturated markets. Conversely, the presence of call externality (i.e. the fact that the called party may derive a benefit from receiving a call but is not charge for receiving a call under the calling party pay principle) may justify below cost MTRs in order to internalise this externality. Combined together, the relative magnitude of these two externalities may warrant above or below cost MTRs. The implementation of any departure from the competitive benchmark, i.e. cost based MTRs, is complex and requires detailed information.

¹³ For an overview of cost modeling issues for setting MTRs and the relative advantages and disadvantages of the various modeling approaches, see e.g. GSMA/PWC, The setting of mobile termination rates: Best practice in cost modeling, London.

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29. In setting termination rates, TRA seeks to provide efficient price signals to the market by estimating the relevant cost of providing services based on an efficient and modern network. Where the rate of technological change is rapid, estimating forward-looking costs require valuing assets at current costs, using modern equivalent technologies, and considering expected demand over the long-run. The costs estimated in this way can be expected to be consistent with the costs that a new entrant would incur today. This ensures that historical inefficiencies are not passed on to consumers in the form of higher prices.
30. As a dominant MNO, Batelco has developed a top-down cost model which calculates the long-run incremental cost of termination services (inclusive of a contribution for common costs) based on current costs. The results of this model are used by TRA during the approval/ordering process for the Batelco reference offer. Batelco's choice for a top-down model is consistent with international practice. Operators typically prefer to develop top-down cost models using their accounting cost information as these models are more easily reconcilable with their statutory accounts and reflect closely their cost incurred.
31. To support its reference offer submission, Zain may wish to develop its own cost model capturing the specificities of its network. The results of this model will be compared to those of Batelco's model (see below on the question of symmetrical rates).
32. TRA intends to develop its own bottom-up cost model of a generic efficient MNO in Bahrain in 2009. This model will be used to evaluate the level of termination rates applicable to the two regulated MNOs, in conjunction with other sources of information available (i.e. the output of Batelco and Zain cost models). TRA's decision to construct a bottom-up cost model is consistent with the practice of regulators and the general move towards greater reliance on bottom-up models in Europe for instance.¹⁴ Bottom-up models are generally preferred by regulators because they rely less extensively on confidential information of incumbent operators, are more transparent and allow the cost of an efficient operator to be modelled more easily. Bottom-up models are also more flexible and amenable to sensitivity analysis.
33. TRA's bottom-up cost model will be developed in consultation with the industry.

¹⁴ In its recent Draft Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU, the EC indicates that termination rates should be based on forward looking cost estimated using bottom-up cost models.

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6. The position of TRA on symmetry

34. Termination rates can be symmetric or asymmetric. TRA is of the view that termination rates should be symmetrical unless there are objective and material cost differences which are outside the control of operators. As explained above and in line with Section 57(2), TRA considers that MTRs should be based on the forward-looking efficient costs of a MNO. Asymmetry can only be considered for a transitory period if specific preconditions are met (see below).
35. Without prejudging the reference offer submission of Zain, TRA is of the preliminary view that there are a priori no compelling justifications for asymmetric rates between Batelco and Zain. The rationale for this position is explained below.
36. In its 2005 Determination settling the dispute between Batelco and Zain referred to above, TRA based Zain termination rate on Batelco's approved rate of the time to which an uplift factor was added.¹⁵ TRA justified this asymmetry on the basis of the incumbency advantages enjoyed by Batelco at that time. TRA also made it clear that asymmetry was only justified so long as Batelco enjoyed such advantages.
37. Two justifications are generally put forward to justify asymmetric rates. First, differences in spectrum allocation may justify asymmetric rates. Typically, the use of 1800 MHz spectrum is more expensive since more base stations are required to achieve the same geographical coverage - although this depends on the characteristics of the territory covered. Hence it may give rise to differences in unit cost beyond the control of operators. However, this issue does not justify any differential of termination rates between Zain and Batelco since both operators have broadly a similar mixture of 900 MHz and 1800MHz.
38. Second, incumbency advantages may warrant a transitory asymmetry. The argument is that differences between MNOs in entry date give established MNOs incumbency advantages over new entrants. Entry into the mobile market involves large fixed costs, especially as a new entrant needs sufficient coverage to attract customers. However, a new entrant has initially a smaller customer base over which to spread its fixed costs. This results in higher unit cost and lower economies of scale achievable, at least initially. A new entrant may also command a higher cost of capital initially. In the case of Zain, TRA considers that a late market entry type of argument cannot justify higher termination rates any longer. Zain entered the market as a second MNO in late 2003 and has a market share of [40%-50%]. Asymmetry for incumbency advantages can only be temporary as otherwise operators would have incentives to remain small. The inability to gain market share could only be admissible if due to exogenous factors.
39. The position of TRA on symmetry is consistent with the provisions of the Telecommunications Law included Section 57(b) which suggest that

¹⁵ See reference in footnote 10 page 3.

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different termination rates may be warranted only between different types of licences, i.e. where the underlying networks differ and hence may have different cost bases.

40. The position of TRA on symmetry is also consistent with developments in Europe where asymmetry of MTRs is in the process of being phased out. Annexe 2 below provides an empirical analysis of the level of asymmetry of MTRs in Europe.

7. Third mobile network operator

41. On 16 September, TRA launched a process to issue a third mobile license. TRA considers that the MTRs of the 3rd MNO should be subject to commercial negotiations in the first instance. If commercial negotiations fail, the parties could request TRA to resolve an interconnection dispute pursuant to Section 57(g) and other general provisions of the Telecommunications Law.
42. TRA considers that its position on setting termination rates and asymmetry articulated above offers adequate guidance to negotiating parties regarding what TRA may view as appropriate MTRs.
43. Whilst the approach of TRA to market definition for termination services and the analysis of competition therein could lead to a conclusion that the forthcoming 3rd MNO should be declared dominant and its MTRs should be regulated, TRA is of the view that doing so would be premature.

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Annexe 1: Benchmark of MTRs

44. MTRs in Bahrain are low compared to MTRs in other countries (See Figure 2 below). There are several potential explanations for this favourable comparison.

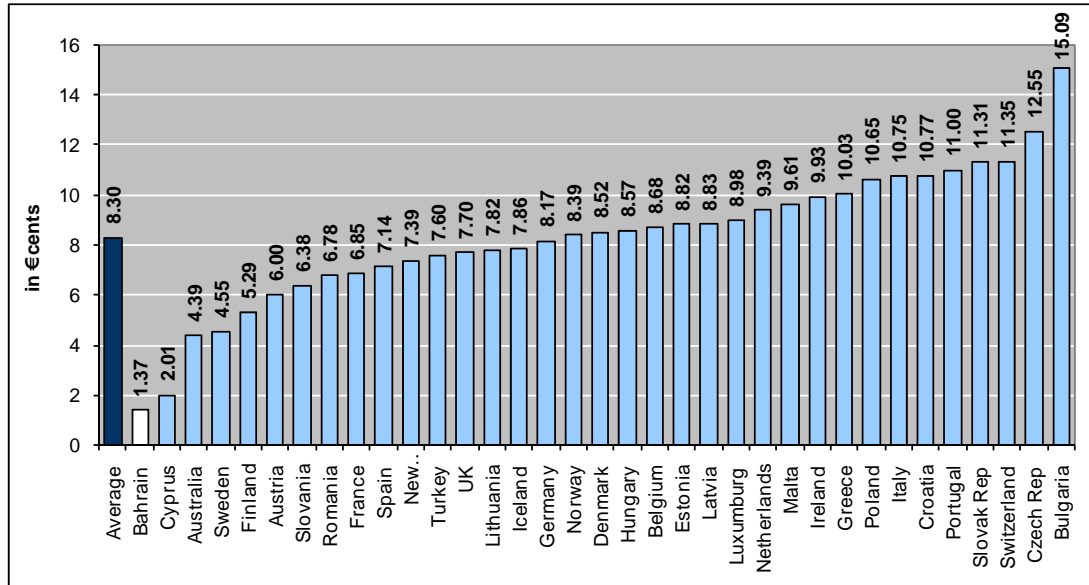


Figure 2 MTRs Benchmark (in € cents)¹⁶

45. First, since the opening of the mobile market to competition with the entry of Zain in late 2003, Batelco's MTRs have been cost based, in line with the provisions of the Telecommunications Law. This contrasts with MTRs in European countries which are progressively being brought in line with underlying costs through the use of glide paths.
46. Second, the low rates suggest that MNOs are able to realise very substantial economies of density, given the relative small size, the high density and concentration of population in Bahrain. Thus, Bahraini MNOs appear to have intrinsically low unit cost thanks to the characteristics of the geography of the country.
47. Similarly, SMS termination rates compares favourably with other European countries (See Figure 3 below).

¹⁶ Source: See table below.

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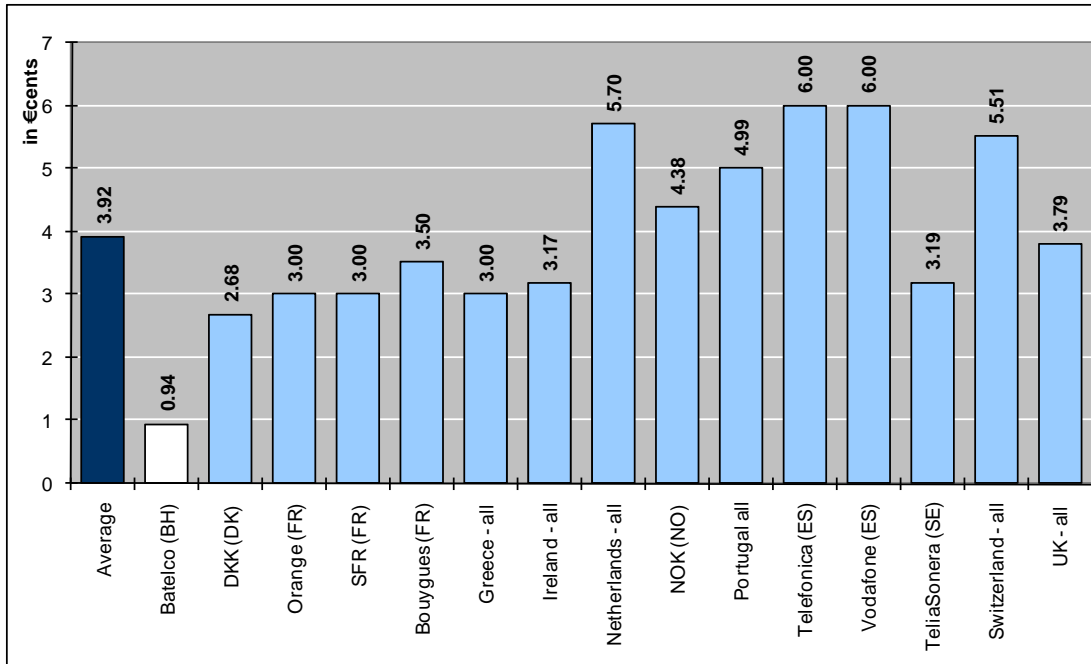


Figure 3 SMS termination rates Benchmark (in €cents)¹⁷

| Country | Operator | SMS termination | | SMS termination | | Forex |
|-------------|-------------------|-----------------|--------|-----------------|----------|-------|
| | | € cent per SMS | Date | per SMS | Currency | |
| Bahrain | Batelco (BH) | 0.94 | Jul-08 | 0.456 | Fils BD | 2.07 |
| Denmark | DKK (DK) | 2.68 | Sep-08 | 2.68 | € cents | 1 |
| France | Orange (FR) | 3.00 | Sep-08 | 3 | € cents | 1 |
| France | SFR (FR) | 3.00 | Sep-08 | 3 | € cents | 1 |
| France | Bouygues (FR) | 3.50 | Sep-08 | 3.5 | € cents | 1 |
| Greece | Greece - all | 3.00 | Sep-08 | 3 | € cents | 1 |
| Ireland | Ireland - all | 3.17 | Sep-08 | 3.17 | € cents | 1 |
| Netherlands | Netherlands - all | 5.70 | Sep-08 | 5.7 | € cents | 1 |
| Norway | NOK (NO) | 4.38 | Sep-08 | 4.38 | € cents | 1 |
| Portugal | Portugal all | 4.99 | Sep-08 | 4.99 | € cents | 1 |
| Spain | Telefonica (ES) | 6.00 | Sep-08 | 6 | € cents | 1 |
| Spain | Vodafone (ES) | 6.00 | Sep-08 | 6 | € cents | 1 |
| Sweden | TeliaSonera (SE) | 3.19 | Sep-08 | 3.19 | € cents | 1 |
| Switzerland | Switzerland - all | 5.51 | Sep-08 | 5.51 | € cents | 1 |
| UK | UK - all | 3.79 | Sep-08 | 3.79 | € cents | 1 |
| Average | | 3.92 | | | | |
| Median | | 3.50 | | | | |

Source: Cullen International September 2008 for SMS termination rates and www.oanda.com for Forex

Table 1: Benchmark data for SMS termination rates

¹⁷ Source: see table below.

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| Country | Average MTR | | Average MTR | | Source | Date | Forex used |
|-------------|--------------|----------|-------------|--|--|--------|------------|
| | in €cent/min | per min | Currency | | | | |
| Bahrain | 1.37 | 0.006626 | BD | | Reference Offer | Jul-08 | 2.07 |
| Cyprus | 2.01 | 0.0201 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Australia | 4.39 | 0.09 | AUS\$ | | ACCC MTAS Pricing Principles Determination Nov 200 | Jul-07 | 0.48807 |
| Sweden | 4.55 | 0.0455 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Finland | 5.29 | 0.0529 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Austria | 6.00 | 0.06 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Slovenia | 6.38 | 0.0638 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Romania | 6.78 | 0.0678 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| France | 6.85 | 0.0685 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Spain | 7.14 | 0.0714 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| New Zealand | 7.39 | 0.16 | NZ\$ | | NZCC MTR issues paper 8 August 2008 | Aug-08 | 0.462 |
| Turkey | 7.60 | 0.076 | € | | ERG (08) 17 MTR update snapshot final 080604 | Jan-08 | 1 |
| UK | 7.70 | 0.077 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Lithuania | 7.82 | 0.0782 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Iceland | 7.86 | 0.0786 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Germany | 8.17 | 0.0817 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Norway | 8.39 | 0.0839 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Denmark | 8.52 | 0.0852 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Hungary | 8.57 | 0.0857 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Belgium | 8.68 | 0.0868 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Estonia | 8.82 | 0.0882 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Latvia | 8.83 | 0.0883 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Luxemburg | 8.98 | 0.0898 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Netherlands | 9.39 | 0.0939 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Malta | 9.61 | 0.0961 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Ireland | 9.93 | 0.0993 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Greece | 10.03 | 0.1003 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Poland | 10.65 | 0.1065 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Italy | 10.75 | 0.1075 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Croatia | 10.77 | 0.1077 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Portugal | 11.00 | 0.11 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Slovak Rep | 11.31 | 0.1131 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Switzerland | 11.35 | 0.1135 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Czech Rep | 12.55 | 0.1255 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Bulgaria | 15.09 | 0.1509 | € | | ERG (08) 41 final MTR Snapshot 081020 | Jul-08 | 1 |
| Median | 8.46 | | | | | | |
| Average | 8.30 | | | | | | |

Note: Exchange rates were sourced from www.oanda.com; ERG rates are weighted average rate by market share based on 3 minutes calls.

Table 2: Benchmark data for MTRs

DRAFT STATEMENT

Regulation of Mobile Termination Services

Annexe 2: Analysis of symmetry of MTRs in Europe

48. The move towards symmetrical rates have been strongly advocated by the European Commission (“EC”) which recently issued a Draft Recommendation whose aim is to remove any asymmetry between MNOs by end 2011.¹⁸ Similarly, the European Regulator Group (“ERG”), in its Common Position on MTRs concluded that “termination rates should normally be symmetric and asymmetry, acceptable in some cases, requires an adequate justification”¹⁹
49. According to the ERG, out of a total of 84 MNOs, 47% had asymmetric rates in 2004. By January 2007, this proportion had dropped to 39%. In the same period, the average asymmetry dropped from €c1.4 to €c0.9. MNOs that entered the market with a three to five year delay had MTRs which were on average 17% higher. For MNOs with a six to eleven year market entry delay, the asymmetry was 35% on average.
50. Those findings are consistent with the analysis of TRA of MTRs applicable in 2008 (Table 3). On average the asymmetry between the largest and second largest MNO in Europe is €c0.36 in absolute terms and 4.55% in relative terms. The asymmetry between the market leader and the third MNO is €c1.57 in absolute terms and 20.59% in relative terms while the asymmetry between the market leader and the fourth MNO is €c3.97 and 43.11% respectively.

| Country | Between 1st and 2nd MNO | | | Between 1st and 3rd MNO | | | Between 1st and 4th MNO | | |
|----------------|-------------------------|---------------|-----------------------|-------------------------|---------------|-----------------------|-------------------------|---------------|-----------------------|
| | Absolute in € cent | Relative in % | Combined market share | Absolute in € cent | Relative in % | Combined market share | Absolute in € cent | Relative in % | Combined market share |
| Austria | 0.08 | 1.4% | 74% | 0.70 | 12.2% | 95% | 2.04 | 36% | 100% |
| Belgium | 1.82 | 25.3% | 77% | 4.23 | 58.8% | 100% | | | |
| Denmark | 0 | 0% | 75% | 0 | 0% | 96% | 4.02 | 48% | 100% |
| Finland | 0 | 0% | 79% | 0.90 | 17.6% | 100% | | | |
| France | 0 | 0% | 83% | 2.00 | 30.8% | 100% | | | |
| Germany | 0 | 0% | 71% | 0.98 | 12.5% | 86% | 0.98 | 13% | 100% |
| Greece | 0.52 | 5.3% | 71% | 0.02 | 0.2% | 100% | | | |
| Ireland | -0.66 | -5.6% | 77% | 3.71 | 31.2% | 96% | 5.89 | 50% | 100% |
| Italy | 0 | 0 | 73% | 0.66 | 7.5% | 91% | 7.41 | 84% | 100% |
| Luxembourg | 0 | 0 | 89% | 2.50 | 28.4% | 100% | | | |
| Netherlands | 1.40 | 15.6% | 79% | 0 | 0% | 100% | | | |
| Norway | 1.11 | 17.4% | 100% | 6.61 | 103.4% | 100% | | | |
| Portugal | 0 | 0% | 83% | 1.60 | 20.0% | 100% | | | |
| Spain | -1.28 | -14.1% | 77% | 0.32 | 3.5% | 99% | 3.75 | 41% | 100% |
| Sweden | 0 | 0% | 76% | 0 | 0% | 94% | 0 | 0% | 100% |
| Switzerland | 2.53 | 25.0% | 81% | 2.53 | 25.0% | 100% | 11.33 | 112% | 100% |
| UK | 0.53 | 7.2% | 51% | -0.08 | -1.1% | 73% | 0.35 | 5% | 95% |
| Average | 0.36 | 4.55% | | 1.57 | 20.59% | | 3.97 | 43.11% | |
| Median | 0 | 0% | | 0.90 | 13% | | 3.75 | 41% | |

Source: TRA analysis based on Cullen International September 2008 for MTRs and Mobile Communications Europe for market shares 15 April 2008

Table 3 Analysis of asymmetry of MTRs in Europe

¹⁸ See reference above in footnote 14 page 10.

¹⁹ ERG, 2008, ERG’s Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rate, page 82.