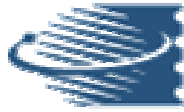


# **Annex 1**



THE POST AND TELECOM  
ADMINISTRATION IN ICELAND

## **Analysis of the wholesale market for call termination on individual mobile telephone networks (Market 16)**

**2 June 2006**

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## Summary and conclusions

This document contains the Post and Telecom Administration's (PTA) analysis of the market for voice call termination on individual mobile networks (Market 16). The market analysis is the foundation for the imposition of sector-specific obligations on mobile network operators (MNO) that are designated as having significant market power (SMP).

This document is based on a draft that was presented for consultation with a letter dated 8 July 2005, wherein electronic communications operators and other interested parties were invited to submit comments on the market analysis and conclusions. The following parties submitted comments on the preliminary draft: Og fjarskipti Ltd.<sup>1</sup> (Og Vodafone), the Competition Authority, and Iceland Telecom (Síminn). A summary of these comments and PTA's position on those comments can be found in Annex 3 accompanying the Draft measures.

This document contains PTA's analysis and conclusions concerning the relevant market. These have now been updated to reflect both the comments submitted and the most recent figures from the MNOs currently operating. Section 1 expounds on the regulatory framework to which the market analysis adheres, as well as a general description of the implementation of the market analysis and the market definition.

In Section 2, the relevant service market is defined in accordance with the Recommendation and Guidelines of the EFTA Surveillance Authority (ESA). PTA is of the opinion that the Administration's definition of the relevant service market, as described in this document, is in accordance with ESA Recommendation and with the conclusions drawn by the European Commission.

Two things make the greatest impact on the definition of the relevant market. First, only the MNO itself can provide call termination in its own network (monopoly on voice call termination in own network), and demand at the wholesale level is dependent on supply, as the caller's MNO has no choice but to purchase call termination from the mobile operator to which the call is placed. Second, the charge for call termination is determined by the MNO that provides the service, and according to the current arrangement, its customers generally have little interest in making an impact on that charge, as they do not pay for termination of voice calls placed to themselves; it is the caller who pays for call termination (the Calling Party Pays principle, or CPP).

It is PTA's opinion that both supply-side substitutability and demand-side substitutability for call termination in mobile networks are insufficient to make an impact on market definition at both the retail and the wholesale levels. Currently available technology does not provide for call termination in mobile networks by any party other than the MNO of the party to whom the call is placed. At the retail level, it also seems that there are no other forms of communication that could exert a restraining influence on pricing for voice call termination in mobile networks. In addition, price awareness among mobile phone users does not seem to be great, which further reduces the possibilities for control and mobility.

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<sup>1</sup> Now Dagsbrún Ltd.

The relevant service market is therefore considered to include voice call termination on individual mobile phone networks. The mobile networks contained therein are GSM<sup>2</sup> 900 and 1800 and NMT<sup>3</sup> 450. There are three undertakings in this country that offer voice call termination in their own mobile networks: IMC Island, Síminn, and Dagsbrún hf. (Og Vodafone).

With consideration given to the definition of the wholesale market for voice call termination on individual mobile networks, PTA has defined the following service markets:

- Voice call termination on Síminn's GSM mobile network
- Voice call termination on Síminn's NMT mobile network
- Voice call termination on Og Vodafone's GSM mobile network
- Voice call termination on IMC Island's GSM mobile network

In Section 3, the relevant service markets are demarcated geographically. With consideration given to the prevalence of mobile networks and frequency licences, and in view of the fact that the wholesale price for voice call termination in mobile networks and the retail price are the same all over the country, PTA is of the opinion that the geographical demarcation of the relevant market is the entire country.

Section 4 contains an analysis of the relevant market and a discussion of the most important issues that affect the position of operators in the relevant market. As is stated above, there are three MNO that offer voice call termination in mobile networks in this country: Síminn, Og Vodafone, and IMC Island. It is PTA's opinion, however, that IMC Island's mobile network is still too small to be meaningful in an analysis of the relevant market. In this context, it should be noted that voice call termination in IMC's network constituted approximately 0.1% of the total number of minutes originating in a network in Iceland during the first half of the year 2005. Because of this, PTA did not consider it necessary to conduct further analysis of IMC Island's position in the relevant market at the present time. PTA considers that this affects neither the results of the analysis nor the evaluation of Síminn and Og Vodafone's market power in the relevant markets.

In PTA's view, the most important factors in the analysis of the relevant market are price trends, market share, entry barriers and potential competition, and purchasers' countervailing buying power. PTA is of the opinion that an analysis of the factors omitted here would not change the results of the market analysis because of the special conditions accompanying the definition of the voice call termination market. For an assessment of the requirements and position of the operators in the mobile market in general, PTA refers to the conclusions of the analysis of market 15.

It appears that there is not effective competition between operators at the wholesale level for voice call termination on individual mobile networks, and price trends in the market support this conclusion. Since 1 December 2001, the call termination prices charged by Og Vodafone and its predecessors have risen by 14% while Síminn's

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<sup>2</sup> GSM stands for *Global System for Mobile Communications*.

<sup>3</sup> NMT stands for *Nordic Mobile Telephone*.

termination prices for the same period have dropped by 17.8%. It is PTA's conclusion that reductions in Síminn's call termination prices can be traced to reductions in expenses and pressure from PTA rather than to restraining influences from competition on the market. It also arouses interest — and is a cause for worry — that other mobile operators have not seen fit to reduce their voice call termination price despite Síminn's reductions.

In the opinion of PTA, many factors indicate that the price for voice call termination in mobile networks is higher than is warranted by expenses; this is especially the case for GSM phone calls. In addition, it must be considered as established that the retail price for a voice call from one mobile network to another is twice as high as that for an on-net call largely because termination rates are high in comparison to the rate for on-net calls. This stems primarily from the way in which these voice calls are charged (the CPP principle) rather than from real costs, as has previously been stated. Voice calls that originate and terminate in the same network seem to be subsidised, while price separation is directed at externally generated traffic through call termination charges that are substantially higher for off-net calls than for on-net calls.

In accordance with the definition of the wholesale market for voice call termination on individual mobile networks, each electronic communications network is considered one market, which means that there is only one MNO in each market. This means that, irrespective of what measure is used, each mobile operator has a 100% market share in the relevant market. Given this fact, both Síminn and Og Vodafone have had a monopoly on voice call termination in their own mobile networks (GSM and NMT) ever since they began to offer mobile services in this country. This conclusion indicates that both companies possess significant market power (SMP) on the wholesale market for call termination in their own mobile networks and can, to a large degree, operate without concern for customers and other electronic communications companies.

The market for voice call termination on individual mobile networks in this country is characterised by considerable entry barriers and does not offer the potential for competition. It is difficult for new undertakings to enter the market, *inter alia*, because of the competition conditions and the requirements, stipulated in frequency permits, concerning minimum build-up of the mobile network.

After having evaluated the data that describe the conditions in the relevant markets, PTA is of the opinion that no indications have emerged to suggest that there is, among currently operating MNOs, countervailing buying power that could allow them to affect each other's call termination charges. In the opinion of PTA, countervailing buying power at the wholesale and retail levels is not sufficient to provide the competitive constraint on call termination prices that would prevent currently operating MNO from having a dominant market position in their own network.

Section 5 contains the conclusions of the market analysis and the designation of the operator or operators with significant market power (SMP). In light of market conditions and the results of the market analysis, PTA intends to designate Síminn and Og Vodafone as having SMP in the relevant wholesale markets for voice call termination in their own mobile networks. It is considered that there is no reason at

present to designate IMC Island as having SMP, as the company's weight in the relevant market is still negligible.

Section 6 contains recommendations for obligations that PTA intends to impose on the operators that are designated as having SMP. It also lists the current obligations, which were imposed on Síminn and Og Vodafone pursuant to the previous Telecommunications Act, no. 107/1999. A review is made of the competition problems that PTA has identified in the relevant markets, and recommendations are made for obligations that should pave the way for increased competition.

The obligations that PTA intends to impose on Síminn and Og Vodafone as regards voice call termination in the companies' GSM networks are the following:

- Access to voice call termination
- Transparency
- Non-discrimination
- Accounting separation
- Price controls. It is intended that this be based on price comparison, where the lowest prices in comparable markets are used as a criterion.

The obligations that PTA intends to impose on Síminn as regards voice call termination in the company's NMT network are the following:

- Access to voice call termination
- Non-discrimination
- Obligation not to offer higher call termination charges in the NMT mobile network than was in force on 31 December 2005

PTA does not intend to impose an obligation of accounting separation on Síminn's NMT network.

# 1 Introduction

## 1.1 General

1. This document contains the Post and Telecom Administration's analysis of the wholesale market that PTA considers to include voice call termination on individual mobile networks (Market 16). It begins with a definition of the service and geographical markets, and continues with a definition of the relevant market. If circumstances warrant it, one or more operators are designated as having significant market power (SMP), and appropriate obligations are imposed on them. The market analysis is the basis for the imposition of sector-specific obligations on operators in the electronic communications markets where one or more operators have been designated as having SMP.

2. This document is based on a draft that was presented for consultation with a letter dated 8 July 2005, wherein electronic communications operators and other interested parties were invited to submit comments on the market analysis and conclusions. The following parties submitted comments on the preliminary draft: Og fjarskipti hf.<sup>4</sup> (Og Vodafone), the Competition Authority, and Iceland Telecom (Síminn). The analysis of the relevant market for voice call termination on individual mobile networks has been updated to reflect the comments that were considered, and all statistical data have been updated to coincide with the most recent figures. The comments have been categorised according to content, sections, and paragraphs, and a response to them is contained in Annex 3. An attempt was made to analyse all of the comments that were meaningful and to respond to them. The comments that were received can be found on PTA's Internet website.<sup>5</sup>

3. Markets and market analyses are subject to change and will be reviewed regularly. Markets that change constantly and considerably must be re-evaluated within a reasonable time limit. The markets are analysed with respect to immediate future development wherever possible. The time period that is used as a reference should reflect the characteristics of the relevant market and the estimated time until the next analysis of that market takes place.<sup>6</sup> In most instances, it is possible to assume two to three years.

## 1.2 New electronic communications legislation

4. On 25 July 2003, new legislation on electronic communications entered into force in Iceland. The new Act, no. 81/2003, implements four EU directives on electronic communications<sup>7</sup> and one directive on the protection of personal privacy in

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<sup>4</sup> Now Dagsbrún Ltd.

<sup>5</sup> See <http://www.pfs.is/>; see Telecom Affairs/Market Analysis/ Consultation with Interested Parties.

<sup>6</sup> See Paragraph 20 of the ESA Guidelines.

<sup>7</sup> Directive of the European Parliament and of the Council, no. 2002/19/EC, of 7 March 2002, on access to, and interconnection of, electronic communications networks and associated facilities (the Access Directive).

Directive of the European Parliament and of the Council, no. 2002/20/EC, of 7 March 2002, on the authorisation of electronic communications networks and services (Authorisation Directive).

Directive of the European Parliament and of the Council, no. 2002/21/EC, of 7 March 2002, on a common regulatory framework for electronic communications networks and services (Framework Directive).

electronic communications.<sup>8</sup> The new electronic communications legislation is intended to create homogeneous operating conditions for electronic communications operators in Europe, limit entry barriers, and create conditions for sustainable competition for the benefit of users.

5. The new Electronic Communications Act assigns PTA the task of identifying relevant electronic communications markets according to product type, service type, and geographical area, in accordance with the principles of competition law and obligations according to the EEA Agreement. In addition, PTA is obligated to analyse these relevant markets and determine whether effective competition exists within them. If PTA concludes that there is effective competition in the relevant market — that is, that no operator, individually or jointly, has SMP — it has no authority to impose obligations on the operator in question. If PTA has previously imposed obligations on operators in the relevant market, these shall be withdrawn and no new obligations imposed. On the other hand, if PTA concludes that effective competition does not exist in the relevant market because one or more operators has SMP, the Administration must designate these operators as having SMP and must impose appropriate obligations on them. PTA is required to impose at least one obligation on operators that have been so designated. If an operator has previously been designated as having SMP pursuant to previous electronic communications legislation, PTA shall re-evaluate the obligations that were imposed and decide whether they should be maintained, amended, or withdrawn.

6. The European Commission has published guidelines and a recommendation concerning market analysis. First, there are guidelines for market analysis and the assessment of SMP,<sup>9</sup> and second, there is a recommendation concerning the relevant markets.<sup>10</sup> The EFTA Surveillance Authority (ESA) has issued comparable guidelines<sup>11</sup> (hereinafter referred to as “Guidelines”) and a recommendation<sup>12</sup> (hereinafter referred to as “Recommendation”), which PTA will take into consideration in carrying out its market analyses. In addition, the Administration will consider the ERG<sup>13</sup> report concerning remedies that may be imposed on electronic

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Directive of the European Parliament and of the Council, no. 2002/22/EC, of 7 March 2002, on universal service and users’ rights relating to electronic communications networks and services (Universal Service Directive).

<sup>8</sup> Directive of the European Parliament and of the Council, no. 2002/58/EC, of 12 July 2002, concerning the processing of personal data and the protection of privacy in the electronic communications sector (Directive on privacy and electronic communications).

<sup>9</sup> Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic networks and services, 2002/C 165/3.

<sup>10</sup> Commission Recommendation and Explanatory Memorandum on Relevant Product or Service Markets within the Electronic Communications sector susceptible to *ex ante* regulation in accordance with directive 2002/21/EC, 11/02/2003, C(2003)497.

<sup>11</sup> EFTA Surveillance Authority Guidelines of 14 July 2004 on market analysis and assessment of significant market power under the regulatory framework for electronic communications networks 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 referred to in Annex XI of the Agreement on the European Economic Area.

<sup>12</sup> EFTA Surveillance Authority Recommendation of 14 July 2004 on relevant product or 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, as incorporated into the Agreement on the European Economic Area, No 19/04/COL.

<sup>13</sup> Abbreviation of “European Regulatory Group of National Regulatory Authorities”.

communications undertakings with significant market power in order to promote competition.<sup>14</sup>

7. The ESA Recommendation on the relevant markets identifies 18 electronic communications markets that PTA is required to analyse pursuant to the new Electronic Communications Act and Iceland's obligations according to the EEA Agreement. The Electronic Communications Act also requires that PTA define these markets in accordance with the conditions reigning in Iceland. In this respect, PTA's market definition may differ from that assumed in the Recommendation. Furthermore, PTA is authorised to investigate all relevant electronic communications markets for the purpose of its market analysis, whether these are identified in the Recommendation or not.

### **1.3 PTA's implementation of its market analysis**

8. As is stated in the PTA introductory document on market analyses,<sup>15</sup> the implementation of a market analysis can be divided into three phases:

- 1) Definition of the relevant service markets and geographical markets
- 2) Analysis of each of the defined markets, assessment of whether there is effective competition in those markets, and decision on whether one or more undertakings has significant market power
- 3) Decision on whether it is necessary to impose, maintain, amend, or withdraw obligations on undertakings with significant market power.

9. This document contains PTA's conclusions for all three phases. These conclusions are based on PTA's draft analysis of the relevant markets, which were presented for consultation with a letter dated 8 July 2005. Comments have been summarised and are answered in Annex 3 accompanying the Draft measures. The analysis of the relevant market for voice call termination on individual mobile networks has been updated to reflect the comments that were considered, and all statistical data have been updated to coincide with the most recent figures.

10. In preparing its analysis of the relevant market, PTA compiled data on the mobile market. PTA sent all listed electronic communications operators questions concerning the mobile market. All undertakings operating in the relevant market were required to send in answers, and other electronic communications operators were offered the option of answering if they chose to do so. The Administration has also gathered information through independent user surveys<sup>16</sup> on transparency, price awareness, and mobility of consumers in the electronic communications market, and has used domestic and international comparison of wholesale prices for voice call termination on mobile networks as a guideline. In addition, PTA has made a comparison of retail prices in the mobile market; that comparison can be found in the

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<sup>14</sup> ERG Common Position on the approach to appropriate remedies in the new regulatory framework.

<sup>15</sup> Introductory report on market analysis prepared by PTA; first published in October 2003, updated in August 2005. See [www.pta.is](http://www.pta.is), under Telecom Affairs and Market Analysis.

<sup>16</sup> Telephone surveys that IMG Gallup conducted for PTA on 26 February – 10 March 2004 and 6 – 18 April 2005. The samples used in both surveys consisted of 1,350 people who were chosen at random from the National Registry and who come from all over the country.

document containing the analysis of the wholesale market for access and call origination in mobile networks (market 15).

#### **1.4 General — market definition**

11. Pursuant to Article 16 of the Electronic Communications Act, no. 81/2003, with subsequent amendments, PTA must define product and service markets<sup>17</sup> and geographical markets in accordance with the principles of competition law and obligations under the EEA Agreement. As has emerged, it is necessary that PTA assess whether the markets as they have been defined in the Recommendation reflect conditions in Iceland. It is necessary to define both the product market and the geographical market before it is possible to determine whether market conditions warrant imposing obligations on the relevant market.

##### **1.4.1 The service market**

12. In Article 4 of the Competition Act, no. 8/1993, a market is defined as the sales area for a product and substitute product and/or the sales area for a service and substitute service. Substitutable products and services are defined as products or services that can, wholly or to a significant extent, take the place of other products or services, not only on the basis of the objective characteristics of the product in question, the purchaser's intended use of it, and its price, but also with respect to competition requirements and/or conditions relating to supply and demand. Products that can compete with one another are therefore called substitutable products, and each market consists of products that are mutually substitutable. Products that can substitute for one another only to a limited extent are not considered part of the same market.

13. Substitutability of a product or service is assessed from two perspectives: first, how readily customers believe that one product can substitute for another (demand-side substitutability), and second, how easily a competitor of a given undertaking can adapt his production so that his product falls within the market to which a product of the given undertaking belongs. If competitors can change their products on short notice and without significant expense, this indicates that their products belong to the same market as the products of the given undertaking (supply-side substitutability).<sup>18</sup>

14. Demand-side substitutability is considered the foundation of the market definition, while supply-side substitutability is considered less meaningful and is often related instead to an assessment of potential competition. Potential competition is the third competition factor that affects undertakings' behaviour, the other two factors being demand- and supply-side substitutability. The difference between potential competition and supply-side substitutability is that supply-side substitutability takes place on shorter notice than does potential competition. In addition, supply-side substitutability does not involve as much investment as new undertakings must generally engage in when they enter a market. An assessment of potential competition is made with the aim of determining whether there are entry barriers that limit normal competition in the market.

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<sup>17</sup> Hereafter, the terms *product* and *service* will be used interchangeably.

<sup>18</sup> See also Paragraph 39 in the Guidelines and the Explanatory Memorandum with the Commission Recommendation, Section 3.1.

15. The SSNIP test<sup>19</sup> has been used to assess potential substitutability. According to the SSNIP test, there is substitutability between products or services A and B if a small (5-10%) but significant non-transitory price increase in product A results in customers' beginning, to a considerable degree, to purchase product B instead, so that the increase in the price of A proves unprofitable. If such a price increase for product A does not generate increased demand for product B, it can be considered that there is not substitutability between A and B.

16. The above method requires a great deal of data compilation, which is often difficult to carry out. However, it is not required that the SSNIP test be used to define markets. Other methods can be used as well. In addition to the SSNIP test, it is possible to use econometrics of supply and demand in the market if such research is available. In assessing demand, it is also necessary to consider end users' access to information, as well as hindrances to switching service providers (lock-in effect). If an end user must bear significant switching costs should he wish to switch from service A to service B, the two services should not belong to the same service market. In assessing supply, it is also necessary to consider sellers' actual options in adapting their production, as well as possible regulatory conditions that could delay or hinder the entry of competitors into the market.

#### **1.4.2 The geographical market**

17. When the relevant service market has been defined, the geographical market must be demarcated. This is based on the general rule that the geographical market shall be determined by the extent of the electronic communications network and the jurisdiction of the legal framework relevant to that market. The definition of the geographical market is also based on an assessment of substitutability of the product and service in question, on the supply side and on the demand side, in case of a small but significant non-transitory price increase, as is described above.

18. The relevant geographical market is the land area where products and services are available on sufficiently homogeneous competitive terms, and where it is possible to distinguish the area from other nearby areas where different competitive conditions prevail. In assessing demand-side substitutability, it is appropriate to consider customers' taste and geographical purchasing patterns. On the basis of this, it is possible to define markets as local, regional, national, or transnational; that is, more than one country. PTA does not have the authority, however, to define transnational markets on its own.

19. Two factors are important in defining geographical markets: price and electronic communications network distribution. If an electronic communications network reaches the entire country, this indicates that the geographical scope should be national. If the distribution of the network is regional and there is no overlapping of regions, this is an indication that the geographical scope should be regional. If prices are the same for the entire country, this indicates that the geographical scope should be national. If prices differ according to region, this is a strong indication that

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<sup>19</sup> SSNIP is an abbreviation of the English phrase „*small but significant non-transitory increase in price*”. The SSNIP test is also called “*the hypothetical monopolist test*”. See Paragraph 41 in the Guidelines, where this is explained further.

supply- and demand-side substitutability do not exist and that the regions in question are distinct geographical markets.

### **1.4.3 Criteria for defining dissimilar service markets**

20. It could prove necessary to define markets that are unlike those that have been pre-defined in the Recommendation. In such instances, it is necessary to consult with ESA. When such markets are to be defined, the following criteria must be met if it is to be possible to impose obligations:

1. There are barriers restricting entry into the relevant market.
2. The characteristics of the market are such that it will not tend sufficiently towards effective competition.
3. The general rules of competition do not suffice to eliminate barriers or to promote competition in the relevant market.

21. In the opinion of the European Commission and ESA, the above criteria exist in the market under scrutiny here.

## **2 Description and definition of the relevant service market**

### **2.1 Market definition in the Recommendation**

22. The service market under scrutiny here corresponds to Market 16 in the Recommendation: “Voice call termination on individual mobile networks.”<sup>20</sup> Voice call termination takes place in such a manner that each mobile network is connected to other networks through a so-called interconnection where technological interfaces are specifically defined. Mobile operators make agreements among themselves for such interconnection; an agreement of this sort stipulates the fee that the operator charges for receiving a voice call or transmitting data into his system and calling up the user in his own network for the termination of the call.

23. The Commission has pointed out that the service for terminating calls in mobile networks is a built-in facet of voice calls that can have their origination either in a fixed-line network or in a mobile network. The price for call termination is determined by the mobile operator that provides the service, and according to the current arrangement, subscribers have few possibilities to affect or influence the price, as it is the caller who pays for call termination (the Calling Party Pays principle, or CPP).<sup>21</sup> The termination price is therefore a part of the cost price of the caller’s service provider, and it is included in the retail price paid by that provider’s subscribers.

24. At the retail level, termination of a voice call to one party does not substitute for termination of a voice call to another party; this limitation on demand-side substitutability also affects the wholesale level. In addition, mobile operators are obligated to terminate voice calls to the party to whom the call is to be placed, as all electronic communications undertakings that offer public telephone service have both

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<sup>20</sup> Page 9 in the Recommendation: “Voice call termination on individual mobile networks”.

<sup>21</sup> Explanatory Memorandum page 33.

the right and the obligation to negotiate for interconnection, cf. Article 24 of the Electronic Communications Act.

25. If a competitor decides to raise his call termination prices, it is not easy for other operators to react by offering termination services. In order to do this, they would need access to the information on the user's SIM card. This information is not accessible to parties other than the MNO with which the user has his subscription. On the other hand, it is the Commission's conclusion that the market is larger than call termination for each and every user, as it is not possible for the service provider to discriminate, without notice, between users in the same network as regards call termination charges.<sup>22</sup> In light of this, the relevant market is defined at least as broadly as voice call termination in each mobile network.

26. With consideration given to the foregoing, it is assumed that a mobile operator and the service it renders in terminating voice calls in its own network are perfectly linked. Thus the Commission considers it important to examine whether there is the possibility of substitutability, on both supply side and demand side, that might constrain termination prices so that mobile network operators cannot set termination prices at their own discretion.

27. The Commission considers, based on the foregoing, that there is not, at present, the possibility for supply-side substitutability, but that the possibility could come into existence in the future with, for example, software-enabled SIM cards.

28. Neither is it assumed that there is the possibility of demand-side substitutability at the wholesale level. Demand at the wholesale level is dependent on supply, as the caller's service provider has no choice but to purchase call termination from the called party's service provider.

29. At the retail level, however, there are various possibilities for demand-side substitutability; for example, other types of calls or forms of communication, such as short voice calls with call-back request, call forwarding, and short messaging (SMS<sup>23</sup>). Another way to avoid call termination charges is to re-route traffic through another mobile operator. The Commission considers nonetheless that it is unlikely that other communications options provide sufficient constraint on the pricing of call termination in mobile networks.

30. In the Recommendation, it is pointed out that countervailing buying power in the retail market could counterbalance increases in service providers' call termination prices. This demands, on the other hand, that the called party be aware of what termination of a voice call to him costs, and that this awareness affect his choice of service provider. The Commission considers, however, that mobile phone users have limited awareness of call termination prices in their own network; that is, what it costs for others to call them (the CPP principle).

31. A closed user group is another example of how countervailing buying power at the retail level could conceivably exert control over call termination pricing. The

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<sup>22</sup> Explanatory Memorandum page 32.

<sup>23</sup> Abbreviation of the English title: *Short Messaging Services*.

Commission considers, however, that this type of countervailing buying power is unlikely to provide constraint that makes any difference. The reason is that the service provider can offer such a group special rates that are below the general price for voice call termination.

32. The Commission has set forth several possibilities for an approach to definition of the relevant market. The first is to define the national market for termination of voice calls to mobile phones. This possibility is, however, rejected with a reference to the fact that the necessary supply-side substitutability is missing. Another possibility is a national market where mobile phone service is defined as a package; that is, call termination is linked to access and call origination. In order for this definition to be valid, however, mobile users must be aware of what it costs others to place a call to them, and the Commission is of the opinion that this requirement is not met.

33. Finally, the Commission comes to the conclusion that voice call termination in individual mobile phone networks is a separate market. One consequence of this is that all MNOs have a monopoly on voice call termination in their own network. On the other hand, it is emphasised that this does not necessarily mean that they all have a dominant market position. This depends on an evaluation of whether there is enough countervailing buying power to counterbalance mobile network operators' power to operate without concern for competitors, customers, or users.

## **2.2 Undertakings in the mobile market**

34. At present, three undertakings operate in the Icelandic mobile market. These are Iceland Telecom (Síminn), Dagsbrún hf. (Og Vodafone), and IMC Island ehf.

35. Síminn has provided mobile phone services since 1986, when NMT mobile services were launched. Síminn is the only company that provides and has a permit for NMT services. The NMT network reaches all Icelanders, and it is accessible in the highlands and in offshore waters. Síminn began offering GSM mobile services in 1994 and has built up its own GSM network, which reaches roughly 98% of all Icelanders. In mid-2005, the number of Síminn customers (measured in terms of the number of mobile phone numbers) using NMT mobile services totalled 20,564, which is a reduction from year-end 2004, when NMT customers totalled 21,300. At the same time, the number of customers using GSM mobile services was 176,119, which represents an increase from year-end 2004, when GSM customers totalled 173,000.

36. Og Vodafone was founded in the year 2003 with the merger of Halló! Frjáls fjarskipti, Íslandssími hf., and Tal hf. Prior to the merger, Íslandssími and Tal provided GSM mobile services, with Tal's services dating from the year 1998. Og Vodafone offers GSM mobile services that reach roughly 98% of Icelanders; most of this service takes place on its own network, but the company also has a roaming agreement with Síminn. As of mid-2005, Og Vodafone's GSM mobile phone customers (measured in number of mobile phone numbers) totalled 96,848, which is an increase from 95,419 customers at year-end 2004.

37. IMC Island ehf. has had a mobile frequencies licence (DCS 1800) since 27 June 2000 and has offered local mobile services in Akureyri since July 2002. This

service still seems, however, to be largely in the experimental stage. IMC has sold pre-paid mobile phone cards in Akureyri since 2004. During that year, the company sold 4 cards, and at mid-year 2005 it had sold 6 cards. The company's operations are based primarily on its international roaming service for foreign users. At mid-year 2005, the number of subscribers to mobile services was 1400, while at year-end 2004 they totalled 1,300, all of them customers of IMC Island's affiliate company, Worldcell Inc. The company's primary customers are corporations and agencies in Washington, DC, and their use is travel-related. Today IMC operates radio transmitters in Akureyri, Egilsstaðir, Eskifjörður, Neskaupsstaður, Reyðarfjörður, Saudárkrókur, and Húsavík. IMC has made an international roaming agreement with Og Vodafone in order to offer its customers services throughout most of the country.

38. As has been stated, Síminn operates both an NMT 450 mobile network and a GSM mobile network. The NMT mobile network is the only analogue mobile network in Iceland, and its range is many times larger than that of the GSM networks in the country. NMT offers more limited services than does the GSM mobile network, however; for example, it does not offer the possibility of sending SMS messages. On the other hand, NMT phones, unlike fixed-line phones, offer the same mobility as GSM phones. The NMT network is also connected to fixed-line and GSM mobile networks and offers voice call termination from both mobile and fixed-line phones.

39. Considering the foregoing, it is PTA's opinion that voice call termination in both the NMT mobile network and the GSM mobile networks falls within the market under scrutiny.

## **2.3 PTA assessment of the relevant service market definition**

### **2.3.1 Introduction**

40. Two factors make the greatest impact on the definition of the relevant market. First, only the mobile network operator himself can provide voice call termination in his own network (monopoly on voice call termination in own network), and demand at the wholesale level is wholly linked to supply, as the caller's mobile company has no choice but to purchase call termination from the mobile operator of the called party. Second, the charge for call termination is determined by the MNO that provides the service, and according to the current arrangement, its customers generally have little interest in making an impact on that charge, as they do not pay for termination of voice calls placed to themselves; it is the caller who pays for call termination (the CPP principle).

41. In keeping with the Commission's conclusions, it is PTA's opinion that the foregoing factors create a situation that makes it important to examine whether other forms of communication, on the supply side and the demand side, are likely to constrain pricing for call termination. In that examination, PTA will use the SSNIP test. In assessing substitutability, it is necessary to begin by examining the retail market before defining the wholesale market.

### **2.3.2 Assessment of demand-side substitutability at the retail level**

42. At the retail level, it is necessary to assess the behaviour of both the caller and the called party in case of a small but significant non-transitory increase in voice call termination prices.

**Caller's reaction to a small but significant non-transitory price increase**

43. If the caller reacts to a small but significant and non-transitory price increase by choosing another form of communication, there could be reason to include that substitutability in the market definition. It is assumed here that a price increase will result in changed usage patterns among callers, which would make the increase unprofitable.

44. PTA considers that, in order to react to a small but significant non-transitory price increase by changing the form of communication, the caller must:

- know that he is calling a mobile number in a given network
- know what it costs to place a call to that mobile network, and
- be aware of an increase in call termination prices in order to have the option of choosing other forms of communications, even though these may be different from, and technologically dissimilar to, conventional mobile calls.

45. In addition, the increase in call termination prices must be automatically visible in the retail price for the various networks. This is not always the case, as the price for voice calls is not itemised in a manner that makes it possible to know what portion of the price stems from call termination. As a result, it must be considered unlikely that an increase in call termination prices in a given network will result in a reduction in the number of calls into the network by users from outside it. In cases involving the same retail price for voice calls in several mobile networks, the increase in call termination prices will probably not be visible to end users, and it will appear to be an increase in the retail price for voice calls to all external networks. When this is the case, it is unlikely that an increase in call termination prices will make an impact on users' calling patterns.

46. Because number portability between mobile networks first became possible in this country in October 2004, until that time mobile phone users generally knew what network they were calling. All of Síminn's mobile numbers began with the number 8, and most of Og Vodafone's numbers began with the number 6, with the exception of Íslandssími mobile numbers, which also began with 8. PTA has not conducted a separate survey of whether consumer behaviour is affected by what networks they call. On the other hand, PTA has surveyed both price awareness and consumer mobility, which, according to the results of those surveys, are not great.

47. The consumer survey that IMG Gallup conducted for PTA in February-March 2004 revealed that only approximately 17% of those who participated believed they knew what their mobile operator's per-minute charge was, and less than half of that number gave correct or near-correct answers. Even fewer, or around 12%, knew what the per-minute charge was for voice calls between Síminn and Og Vodafone's networks. Similar questions were asked in PTA's consumer survey from April 2005, when a slight difference in price awareness was detected between Síminn and Og Vodafone subscribers. The proportion of Síminn customers who believed they knew the per-minute charge for voice calls within Síminn's network had dropped to 12.4%, while the number of Og Vodafone customers who believed they knew their provider's

per-minute price for on-net calls had risen to 20.7%. A greater number of participants gave a correct or near-correct answer in the latter survey, and Og Vodafone's customers appeared to be better informed than Síminn's. The same can be said about the per-minute price for voice calls between Síminn and Og Vodafone's networks: a greater proportion of Og Vodafone customers, or 17.8%, believed they knew, while the percentage of informed Síminn customers dropped to 8.6%.

48. In PTA's consumer survey of April 2005, respondents were also asked whether they knew that it is more expensive to call between networks than to call within the same network, and it was revealed that 95.6% of those who answered knew this. Users were also asked if they knew whether they were calling a mobile phone in their own network or in another network. Less than half said they never knew (32.3%) or seldom knew (15.6%), while 14.3% said they always knew, 26.6% claimed to know often, and 11.1% said they knew sometimes. Those who claimed to know sometimes, often, or always whether they were placing an on-net or off-net call were asked which of the following statements applied to them when they knew that they were calling to another network: 17.9% tried to shorten the call, 17.1% used fixed-line phones, 8.1% sent SMS messages, and 56.8% placed the call as though it were an on-net call.

49. From this, it can be seen that users have little awareness of what it costs to place a call from a mobile phone, and even though most of them know that it is more expensive to call between networks, it does not seem to make much difference whether a user knows what network he is calling. It can therefore be assumed that mobile phone users would probably not use other forms of communication or choose not to call if a small but significant non-transitory price increase were implemented. After the earlier survey was conducted, number portability between mobile networks became a possibility. This will most likely reduce users' price awareness further because it is now less clear to what mobile network the call is being placed. Given the above considerations, it is possible to draw the conclusion that a small but significant non-transitory increase in call termination prices for voice calls in mobile networks would not have a significant effect on the behaviour of the caller, and it would probably not lead to his using other forms of communication.

50. It is interesting to note that Og Vodafone customers seem to be better informed than Síminn's customers — that is, as regards the per-minute price for use of a GSM mobile phone — and they seem slightly, though not significantly, more price-conscious. In the opinion of PTA, this difference can most likely be explained by the fact that, of the participants in the April 2005 survey, the majority of Og Vodafone customers belonged to the 16-24 age group, while the majority of Síminn customers belonged to the 55-75 age group. In PTA's opinion, this shows that younger users are more price-conscious than older customers where GSM phone use is concerned.

PTA compiled information on the calling patterns of Síminn and Og Vodafone's customers during the year 2004 by means of a letter to the companies dated 30 May 2005. This revealed that there is not a great difference in the length of voice calls, whether these take place within the network or between networks. [REDACTED]

PTA has not examined specially the effects of various subscription options in the market on users' price awareness, apart from distinguishing, in both of its consumer surveys, between subscribers and users of pre-paid phone cards. The results showed that there was not a significant difference between subscription users and those using pre-paid cards.

51. Despite this, PTA considers it appropriate to examine further what forms of communication could conceivably substitute for voice calls in mobile networks. It is assumed that a sufficient number of callers know what network they are calling, what it costs, and what the termination price is for the voice call. In this context, PTA considers it proper to examine the following forms of communication:

- call to a fixed-line phone instead of a call to a mobile phone
- call between two mobile phones in the same network instead of a call between mobile phones in different networks or a call from a fixed-line phone to a mobile phone
- SMS instead of a call to a mobile phone
- short call with call-back request
- call with IP technology (VoIP) instead of a call to a mobile phone.

*Call to a fixed-line phone instead of a call to a mobile phone*

52. It is conceivable that users will react to high termination prices for calls to mobile phones by placing calls to fixed-line phones, as the termination price for such calls is lower. PTA can imagine various circumstances where the caller attempts first to call a fixed-line phone before placing a call to a mobile phone. On the other hand, PTA is of the opinion that such substitutability does not exist to a great degree because the purpose of a call to a mobile phone is to reach the called party wherever he is, without regard to whether he is near a fixed-line phone. This option is therefore inadequate in many instances. Furthermore, it is only economical if the call is placed from a fixed-line phone to another fixed-line phone, as calls from mobile phones to fixed phones are much more expensive. As a result, PTA considers that calls to fixed-line phones can substitute for calls to mobile phones only to a limited extent. The substitutability effect of fixed-line calls is therefore considered too insubstantial to make an impact on the definition of the relevant market.

*Call between two mobile phones in the same network instead of a call between mobile phones in different networks or a call from a fixed-line phone to a mobile phone*

53. An on-net call is generally less expensive than an off-net call; that is, when the caller and the called party use different mobile operators. An on-net call is less expensive than either a call from a fixed phone to a mobile phone or a call between two mobile networks. Theoretically, an increase in call termination prices that leads to a higher retail price could result in the caller's using a mobile phone connected to the same network as that used by the called party, instead of calling from a fixed-line phone.

54. In view of the fact that Síminn had a market share of approximately 64.5% of GSM mobile phone customers at mid-year 2005, there is the possibility that on-net calls could be a substitutability option for calls from a fixed-line phone. The low level of user price awareness, however, reduces the constraint that such substitutability could exert on call termination prices.

55. Just as an on-net call could substitute for a call from a fixed-line phone, it could also substitute for a call between two mobile networks. This requires that the caller or the called party have more than one mobile phone subscription, which would make it possible to choose the subscription with the lower call termination price. It must be borne in mind, however, that some mobile phones are locked and can be used only in the mobile network for which they were originally purchased; that is, in such phones it is impossible to use a SIM card from another company. This option is complicated, and it must be considered unlikely that many users have more than one mobile phone subscription. As a result, it must be considered that substitutability between on-net and off-net calls is insignificant and will not have a noticeable effect on the termination prices for calls to mobile networks.

*SMS instead of a call to a mobile phone*

56. PTA is of the opinion that, in some instances, SMS could substitute for calls. This is especially the case with shorter calls that do not necessarily have to take place at a specific time. Counterbalancing this are the possibility of delayed delivery, limitations on the number of symbols that can be typed in each message, and indications that the market considers SMS an auxiliary service rather than a substitute for voice calls. The results of PTA's April 2005 consumer survey support this conclusion. In that survey, users were asked how often they sent SMS, and it was revealed that 25% never sent SMS and 30.3% sent SMS less than once a week. Slightly less than 20% said they sent SMS 1-3 times a day. Of the slightly less than half who sent SMS, 40% said they chose that form of communication over calling because it was quicker and more convenient. Only 13.5% claimed to send SMS because it was less expensive than a voice call. Of the nearly 70% who said they knew when they placed an off-net call, only 8% said they sent SMS under those circumstances. PTA is of the opinion that SMS does not substitute for calls to a great enough extent to render a small but significant non-transitory increase in charges for call termination unprofitable. Potential substitutability is not considered sufficient reason to include SMS termination in the definition of the relevant market. Further discussion of SMS can be found in Section 2.3.8.1.

*Short call with call-back request*

57. Such calls are not new, and there are no data to prove that they have made an impact on the price for call termination. It can be considered likely that such calls are most commonly used by the youngest generation with the aim of transferring the cost of the call to the other party, most likely the caller's parent; therefore, such calls should not have an affect on the final price of the call.

*Call with IP technology (VoIP) instead of a call to a mobile phone*

58. Use of VoIP services on the Internet has increased to a great degree recently, especially for international calls. Calls with IP technology are such that the call is placed over the Internet, either from one computer to another, or from a computer to a fixed-line or mobile phone. In addition, wireless Internet phones are being developed, which would give users the option of connecting to the Internet wirelessly and then placing a call.

59. When a call is placed from one computer to another, both the caller and the called party must be connected to the Internet and have computers with corresponding

software, headphones, and microphone in order to be able to talk together. The benefit of calling from one computer to another is that the cost includes only Internet connection and download, if appropriate; there is no charge for the voice call itself. In most instances, when a call is placed over the Internet to a fixed-line phone or a mobile phone, the charge for the call is assessed according to a special price list that is based on a fixed rate per minute.

60. It is normal to consider whether VoIP calls, primarily those from one computer to another, could substitute for calls to mobile phones if prices for the latter should rise (due to increases in call termination prices). The chief contraindication is mobility, which also applies to calls to a fixed phone instead of a mobile phone. The benefit of a call to a mobile phone is that it is possible to reach the called party no matter where he is. This premise could change with further development and promulgation of the Internet and wireless Internet phones, which have not yet become common here. As things stand today, PTA considers that VoIP service does not exert any competitive pressure on termination prices for calls to mobile phones. The primary reason for this is that VoIP has not achieved any significant distribution and is still in the developmental stage. It is most desirable to use VoIP when calling from one computer to another due to the low cost involved, but this requires, on the other hand, that the called party be on line when the call is placed. Thus there are still many barriers to real substitutability in this form.

61. In view of the foregoing, PTA considers that calls with IP technology do not place any measurable competitive constraint on voice call termination prices and do not substitute for calls to mobile phones at the present time.

#### *Summary and conclusions*

62. Considering the above, there are several forms of communication that could be possible substitutes for calls between mobile networks. It has been stated that on-net calls could conceivably represent a substitute service; that is, if the user has full awareness of what network he is calling. Number portability between mobile networks first became possible in October 2004. Until that time, users could usually tell what network they were calling. After number portability became an option, however, it became more difficult to know this. In view of the results of the above-mentioned consumer surveys, PTA is of the opinion that in most instances it makes little difference whether the user knows what mobile network he is calling, as consumers' price awareness is not great enough to render a small but significant non-transitory price increase unprofitable. Thus it must be concluded that on-net calls do not represent a genuine substitute for calls between networks.

63. It is therefore PTA's conclusion that none of the above-described forms of communication could substitute for calls to mobile phones to a great enough degree to make a small but significant non-transitory increase in call termination prices unprofitable. This conclusion is based, among other things, on the fact that the demand for voice calls seems inelastic because consumer price awareness is limited, as was shown by the above-mentioned consumer surveys conducted for PTA, and because the cost for call termination between mobile networks is non-transparent, especially after the implementation of number portability. For this reason, the market under scrutiny here does not include these forms of communication, which is congruent with the Commission's findings.

**Called party's reaction to a small but significant non-transitory price increase**

64. If the called party reacts to a small but significant non-transitory increase in call termination prices by choosing another form of communication as a means of terminating calls, there could be reason to include such forms of communication in the market definition. It is assumed here that a price increase causes a change in communication patterns among called parties and renders that price increase unprofitable.

65. As has been revealed, the CPP principle means that an increase in voice call termination prices generally does not make an impact on the called party because he does not pay for the call. Because of this, it can be assumed that a great impetus would be required to make a called party switch mobile phone companies because of an increase in call termination prices. This could be possible, however, if the increase meant that the party in question received fewer calls than he did previously. In the opinion of PTA, all of the following premises must exist in order for the price increase to have such an effect:

- A sufficient number of called parties switch mobile phone operators if it becomes more expensive to call them because of increases in call termination prices
- the caller knows what voice call termination costs
- the caller knows what mobile network he is calling and what voice call termination costs in that network, and
- the called party knows that the caller is aware of the call termination price, what mobile phone network he is calling, and what the voice call costs.

66. As has previously been stated, PTA is convinced that mobile phone users are generally unaware of what network they are calling and what they are paying for voice call termination. Furthermore, it can be assumed that few called parties are concerned with call termination prices in their own networks, as they do not have to bear the expense of termination. The consequence of this is that the called party will generally not react to a small but significant and non-transitory increase in termination prices for voice calls to a mobile network by changing forms of communication or switching to another mobile operator. This would probably apply even though other forms of communication were available.

67. Despite the fact that mobile phone users can switch operators rather easily, it is not very common that they do so. Also examined in the February-March 2004 consumer survey was the percentage of users who had switched from one mobile operator to another. More than 20% of those asked had switched mobile operators, while almost 80% had not. Most of those who switched to another MNO, or 25%, said price was the reason for their switching service providers, and 20% said that they switched because of a special offer. Most of those who had not switched, or 54%, said they had not switched because they were happy with the service provided. In the PTA consumer survey conducted in April 2005, users were asked whether they had switched GSM service providers in the past two years. Of those who answered, 15.7% had switched, and among this group, price was the chief reason for the switch in 37.6% of cases. Because the question asked in the prior survey was not limited to a specific period of time, as was the case in the latter survey, it would be careless to compare the results and draw sweeping conclusions from them.

68. From the beginning of 1998 to mid-year 2005, Síminn's market share in the GSM mobile market dropped from 100% to approximately 64.5% measured in number of customers. As of mid-year 2005, Síminn had 176,119 customers with GSM mobile phones, while Og Vodafone had a total of 96,848 customers.<sup>24</sup> The shift in market share in the wake of the entry of other mobile operators into the market, from Tal's entry in the year 1998 until the present, can be traced to new customers and those who decided to switch mobile operators. Between the beginning of the year 1998 and mid-year 2005, Síminn's customers increased in number by 136,253, while other companies' customers increased by 96,848. From these figures, it can be seen that more customers choose Síminn, which had the greatest number of customers originally. The reason is not necessarily that they are aware that a higher proportion of on-net calls will benefit them, however, as surveys indicate that such awareness is limited, especially among Síminn's subscribers. It is not possible to eliminate the possibility that call termination prices affect users' selection of service provider; however, PTA is of the opinion that this is not common enough to make an impact on call termination pricing at the wholesale level.

69. In view of the foregoing, PTA is of the opinion that there is not sufficient demand-side substitutability from called parties, and that there is not real demand-side substitutability at the retail level, for these to affect either voice call termination prices in mobile networks or the definition of the relevant market.

### **2.3.3 Assessment of demand-side substitutability at the wholesale level**

70. There is a direct correlation between demand at the wholesale level and demand at the retail level. If a user wishes to call a party on a given mobile network, his mobile operator has no choice but to purchase call termination from the operator to which the call is placed. In view of this fact, PTA is of the opinion that substitute services do not exist at the wholesale level.

71. It is technologically possible to terminate a voice call in another mobile network in order to avoid high call termination prices. This can be accomplished, for example, by one operator's purchasing call termination from another operator through a corporate subscription. This assumes that the per-minute price is lower for companies than for individuals. PTA considers it likely, however, that in such instances the MNO that provides call termination services would try to prevent this. It is therefore the opinion of PTA that, in practice, such attempts to terminate voice calls by other means would not be successful enough to make a small but significant non-transitory price increase unprofitable.

72. Another known method for avoiding high call termination prices is to re-route mobile traffic through another service provider (also referred to as refiling). PTA has undertaken the examination of Síminn's practice of re-routing a portion of its mobile traffic to Og Vodafone through foreign network operators in order to pay lower prices for call termination. In a letter dated 22 December 2004, Síminn stated that the company had adopted the new practice of routing a portion of the calls ending in Og Vodafone's mobile network through foreign operators in order to pay lower

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<sup>24</sup> The number of customers is measured in the number of mobile phone numbers.

termination prices than those offered to Síminn by Og Vodafone. Og Vodafone's statement on the matter, dated 18 January 2005, included the prices the company charges seven foreign electronic communications operators for termination. In one case, that price proved lower than the price offered to Síminn by Og Vodafone. This price difference was corrected, however, on 1 January 2005. At a meeting with PTA on 16 November 2005, Síminn stated that it was still possible to find lower termination prices charged to foreign operators for calls to Og Vodafone's mobile network and that Síminn had therefore begun to send calls abroad. On the other hand, information from the companies indicates that this practise is no longer in effect. Moreover, the amount of traffic routed in this manner seems to have been small, and the routing abroad appears to have taken place for a very short time. In view of this, PTA sees no reason to give this circumstance particular consideration in its definition of the relevant market; the service is actually the same and should be offered at the same price because both Síminn and Og Vodafone are obligated, under the previous Telecommunications Act, to observe non-discrimination in their termination services.

#### **2.3.4 Conclusions concerning demand-side substitutability**

73. Based on the above, it is PTA's conclusion that there are no possibilities for demand-side substitutability that necessitate broadening the definition of the relevant market. This conclusion is congruent with the Commission's findings.

#### **2.3.5 Assessment of supply-side substitutability at the retail level**

74. Supply-side substitutability at the retail level requires that operators not offering termination in specific mobile networks be able to begin offering those services if the operator to which the call is placed increases its termination prices. In order for that to be realistic, the operators would, among other things, have to have access to the information on the SIM card of the called party.

75. Currently, only the operator that issued the SIM card has access to this information. Other operators must therefore obtain permission from that company in order to gain access to these data. PTA does not consider it realistic to have this information freely available, as this could reduce the mobile operator's revenues from call termination. Thus PTA is not of the opinion that there is realistic potential for supply-side substitutability at the retail level.

#### **2.3.6 Assessment of supply-side substitutability at the wholesale level**

76. Substitutability at the wholesale level requires that other operators be able to begin offering termination at the wholesale level for calls to given end users if those users' mobile network operators increase their call termination prices.

77. As was stated in Section 2.3.5, only the called parties' mobile operators have access to the information on called parties' SIM cards, and it is this information that is necessary if an undertaking is to offer call termination services. This also applies to service at the wholesale level. For this reason, supply-side substitutability at the wholesale level does not exist.

### **2.3.7 Conclusions concerning supply-side substitutability**

78. It is PTA's conclusion that there is no supply-side substitutability for call termination, at the wholesale or retail level, which necessitates broadening the definition of the relevant market. This is in keeping with the Commission's findings.

### **2.3.8 Market definition — further discussion**

79. Considering the foregoing, there are no other forms of communication — either supply-side or demand-side — that should be included in the definition of the relevant market. In accordance with this, it seems appropriate to define the market as the supply of voice call termination at the wholesale level to a given party or phone number. PTA is of the opinion, however, that such a definition would be too narrow, as mobile operators have extremely limited possibilities for discriminating among users in their networks with respect to termination prices. The price for call termination is the same for all, and if a mobile operator wishes to give preferential treatment to price-conscious customers, this is usually done by means other than the reduction of call termination prices; e.g., through a discount on the retail price for calls to specific numbers. Thus it is PTA's assessment that the relevant market should include call termination for all voice calls in every individual mobile network.

#### **2.3.8.1 SMS (Short Messaging Service)**

80. It is appropriate to examine whether termination of SMS should be considered a part of the market that includes call termination. The Commission does not take a clear position on this but seems to make a distinction between voice calls and data transmission (including SMS).

81. If there were substitutability between SMS termination and call termination, it would be possible to view SMS termination as a part of the market for call termination. As is stated in Section 2.3.2, PTA considers that despite there being substitutability between SMS and calls in certain instances, SMS is unlikely to substitute for calls to a great enough degree to render a small but significant non-transitory increase in prices for voice call termination unprofitable. Furthermore, it is unlikely that SMS termination will constrain call termination prices, as the same party provides both types of termination services, and there is very little likelihood that he will underbid himself.

82. The question of whether SMS is a part of the relevant market depends on whether SMS can be viewed as a substitute service for calling and can constrain call termination prices. If a mobile operator decides to raise its termination prices, this could lead to a reduction in the number of termination minutes if users react to the increase by sending SMS instead of calling. The following conditions must exist in order for such reactions to be expected:

- The increase in termination prices must reveal itself in a higher price to users.
- If it is assumed that the price to users will rise, users must know a) what mobile network they are calling, and b) what it costs to place calls to the mobile network in question (which is, again, dependent on the termination price).
- The call must be of such a nature that it is possible to use SMS instead.

83. It is not a given that the price to the end user will rise even if the termination charge increases. For this reason, it is not possible to assume that the first condition will always exist.

84. As has been stated, the above-mentioned consumer surveys by PTA showed that mobile phone users have limited awareness of what it costs to place a call to a mobile network. In view of this, it can be considered likely that it will not matter much if the user knows what mobile network he is calling. It is possible to send an SMS instead of calling if a higher price for call termination results in a higher retail price, but it can nonetheless be considered likely that this will exert limited controlling influence on termination prices in practise, as user price awareness and transparency are both insufficient.

85. As concerns the third condition, the call must primarily be short (and with a person the party in question knows) in order for SMS to be a viable alternative to a voice call. In light of dissimilar usage possibilities, it must be considered that SMS can substitute for calls only to a limited degree.

86. In PTA's analysis of the market for access and call origination in mobile networks (Market 15), it was concluded that SMS was a part of the market for GSM networks. The chief reason for this was that subscription and access to call services and SMS services are generally sold together as a package offered to users and that it is therefore normal to examine the pricing of these jointly. This applies at both the retail and the wholesale level.

87. PTA is of the opinion that termination of voice calls and SMS is not affected by the fact that their access and origination are sold together as a package. This is chiefly because the caller must pay for the termination, while it is the called party who chooses the network where termination takes place. The decision concerning whether to make contact via voice call or SMS is made by different users at different times, but termination is, on the other hand, dependent on separate purchase by other users of mobile phone service and is not part of a given package. The caller does not, with his subscription, decide to purchase termination only from one operator, as he decides through his subscription to purchase access and origination from one operator, at a given price, for both voice calls and SMS.

88. There is a significant difference in termination of calls and SMS, which indicates that they do not belong to the same market. SMS service is not offered in the NMT mobile network and was not possible in fixed-line networks until the year 2005, when Síminn began offering SMS service to its fixed-line customers. It has been possible, however, to send SMS messages from a computer. SMS service is a supplementary service that emerged long after voice call services for mobile phones commenced. The pricing of SMS and voice calls from mobile phones differs as well, as there is a given price for each SMS sent, while call traffic is charged based on the number of minutes. In addition, interconnection agreements contain special provisions concerning SMS termination.

89. Furthermore, there is a technological difference between voice calls and SMS, where SMS is not based on the same real time as are voice calls. This means that it is

possible to use other means for SMS termination. Moreover, SMS and calls are, by their very nature, dissimilar forms of communication and fulfil dissimilar requirements. The results of the PTA consumer survey of April 2005 indicate that mobile phone users tend to view SMS as a supplementary service, as only 13.5% of the 75% who send SMS said they do so because it is less expensive than calling. Most of those who said they sent SMS instead of calling said they did so because it was more convenient (21.3%) or quicker (18.3%). Others said that they sent SMS instead of calling because they didn't feel like calling (8.7%) or they couldn't reach the other party by calling (8.2%). In PTA's opinion this indicates that these are different markets.

90. In view of the foregoing, it is PTA's assessment that substitutability between SMS termination and call termination in a mobile network is not sufficient to constrain the price for call termination. It is therefore PTA's conclusion that SMS termination does not belong to the relevant market. On the other hand, PTA will monitor closely the developments in SMS termination and, if necessary, will assess whether it should carry out further definition of the SMS termination market.

## **2.4 Summary and conclusions**

91. It is PTA's conclusion that the relevant service market is consistent with the recommendation and conclusions of the Commission. There is not sufficient substitutability for call termination in a mobile network, either on the supply side or on the demand side, at the retail or the wholesale level, for substitutability to affect those conclusions. Currently available technology does not provide for call termination in mobile networks by any party other than the MNO of the party to whom the call is placed. It is unlikely that this will change in the near future. At the retail level, it also seems that there are no other viable alternatives for consumers that could constrain the price of call termination in mobile networks. Moreover, it seems that price awareness among mobile phone users is limited, as the previously mentioned consumer surveys indicate.

92. The relevant service market is therefore considered to include voice call termination on individual mobile phone networks. The mobile phone networks contained therein are GSM 900 and 1800 and NMT 450. As has been discussed, there are three companies in this country that offer voice call termination in their own mobile networks: IMC Island, Síminn, and Og Vodafone.

93. In light of the foregoing discussion, PTA defines the following service markets:

- Voice call termination in Síminn's GSM mobile network
- Voice call termination in Síminn's NMT mobile network
- Voice call termination in Og Vodafone's GSM mobile network
- Voice call termination in IMC Island's GSM mobile network

## **3 Geographic demarcation of the relevant market**

94. According to the Guidelines,<sup>25</sup> the relevant geographical market includes the area where the undertakings in question are involved in supply and/or demand for the relevant product or service and where competitive conditions are similar, so that it is possible to distinguish the area from other market areas. In assessing demand-side substitutability, it is appropriate to consider customers' taste and geographical purchasing patterns. The Guidelines state, furthermore, that the traditional definition of a geographical market in the field of electronic communications is determined with reference to the extent of the electronic communications network in question and to the legislative jurisdiction of the regulatory framework applying to the relevant market.

95. In view of the fact that call termination in each individual mobile network is a separate market, it can be deduced that the geographical scope of each market is consistent with the scope of each operator's mobile network.

96. The mobile networks that are used for call termination are geographically demarcated as including Iceland only. Iceland is the jurisdiction to which the Electronic Communications Act, no. 81/2003, applies. In the GSM frequencies licences issued to Síminn and Og Vodafone, it is stated that the right to use the frequency zone extends to the entire country. Today Síminn's GSM network reaches the entire country, or 98% of Icelanders; Og Vodafone also offers mobile services to 98% of Icelanders, mostly through its own GSM network but also through a roaming agreement with Síminn. IMC Island's GSM network is smaller than the other two, and today the company has radio transmitters in the following locations: Akureyri, Egilsstaðir, Eskifjörður, Neskaupsstaður, Reyðarfjörður, Saudárkrókur, and Húsavík. IMC Island has also concluded an international roaming agreement with Og Vodafone, which provides IMC users the option of roaming on Og Vodafone's GSM network. According to the terms of the frequency allocation, IMC is required to set up radio transmitters in two towns in coming months.

97. It must be considered that the competitive conditions for call termination on mobile networks are fundamentally the same for the entire country. The pertinent mobile network operators that offer termination in Iceland have licences to use specific frequencies and are required to offer their services nationwide. Termination prices do not vary according to the user's location in the country. Until the present time, the retail and wholesale price have been the same throughout the country. PTA is therefore not aware of any reason, based on regional differences in competitive conditions, to divide Iceland into more than one area.

98. Considering the foregoing, it is PTA's assessment that there is no reason to define the relevant market in a narrower fashion than that assumed in the Guidelines. In view of this, PTA is of the opinion that the geographical market for call termination in individual mobile networks is the entire country.

## **Market analysis**

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<sup>25</sup> See Section 2.2.2. in the ESA Recommendation.

## 4.1 Introduction

99. In this Section, the relevant service markets are analysed on the basis of the criteria for significant market power (SMP), in order to determine whether one or more operators can be defined as having such power. The criteria that are used to measure the market power of the operators in question depend on the characteristics of each market. It is the role of regulatory authorities to assess what criteria are most appropriate in assessing market power. The analyses are based on the criteria that are discussed in the ESA Guidelines and in PTA's introductory document on market analysis.

100. The ESA Guidelines<sup>26</sup> state that it is appropriate to begin market analysis by describing the retail market over a specified period of time, with consideration given to supply-side and demand-side substitutability. When a retail market has been analysed, that analysis creates a foundation for the identification of the relevant wholesale market, which is the market for supply and demand for products that third parties wish to supply in the retail market. In other words, in order to assess competition on the wholesale market, it is also necessary to examine the underlying retail markets.

101. The first task is to discuss interconnection and its effects on development and competition in the electronic communications market. Wholesale services for call termination in mobile networks are one type of interconnection that mobile companies seek with the aim of connecting their customers to users in other mobile networks. The relevant markets are at the wholesale level, as no mobile market at the retail level is specified in the Recommendation. The competitive position in the relevant markets is then evaluated based on the criteria that are most appropriate for assessing whether a company possesses SMP. Collective (or joint) dominance is not a possibility in this case, as the relevant markets are defined as each individual mobile network, which means that there is only one operator in each market under scrutiny.

102. In PTA's assessment, the most important criteria in the analysis of the relevant market are market share, entry barriers and potential competition, and countervailing buying power. PTA is of the opinion that an analysis of the criteria omitted here would not change the results of the market analysis because of the special conditions accompanying the definition of the call termination market.

103. PTA's analysis of the wholesale market for access and call origination in public mobile networks (Market 15) examines all of the criteria mentioned in the Guidelines. The analyses of markets 15 and 16 were carried out simultaneously; therefore, it was not considered necessary to analyse all of the criteria mentioned in the Guidelines for both markets, as this would merely have resulted in repetition in most instances. Both markets are mobile markets, and many of the criteria assessed in the analysis of Market 15 concern the status of the mobile market in general and therefore have an effect on operators in Market 16 as well; i.e., high sunk costs associated with entry into the market, the fact that the market has reached a certain saturation, and the fact that the growth in the number of customers has slowed. Some of the criteria illustrate Síminn's strong position in the mobile market — for example,

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<sup>26</sup> See Premise 10 in the Recommendation.

the overall size of the company, economy of scope, and easy access to sales and distribution systems — while others demonstrate that both Síminn and Og Vodafone possess sound and beneficial experience, both possess economy of scale, and both have relatively easy access to capital. All of these criteria make an impact on the position in the relevant market, and PTA will take these conclusions into consideration. In other respects, reference is made to PTA's analysis of Market 15.

#### **4.2 Interconnection and call termination — overview**

104. In Article 3, Subparagraph 24 of the Electronic Communications Act, no. 81/2003, interconnection is defined as follows: “physical and logical connection of electronic communications networks enabling users to communicate with other users or gain access to services provided by another electronic communications undertaking. It makes no difference whether the service is provided by the network owner or other parties which may have access to the electronic communications network.”

105. Interconnection is one type of access. Rules governing interconnection are, and will continue to be, one of the most important aspects of legislation on electronic communications, as interconnection is the premise by which new service providers can enter the market and provide services in competition with others in that market. Article 24 of the Electronic Communications Act contains a general provision on interconnection, which states that electronic communications undertakings operating public electronic communications networks or public electronic communications services shall have the right to and be obligated to negotiate interconnection of networks and services. PTA can, however, impose more stringent obligations on undertakings that have been designated with SMP; for example, to promote non-discrimination and to offer interconnection at a cost-oriented price.

106. Call termination on a mobile network is based on the connection of electronic communications networks and on an agreement stipulating payment and other terms. The connection of networks occurs either through direct connection with the terminating party or through the intercession of a third party who transmits traffic between the two networks. Interconnection in different fixed-line systems goes through a large number of interconnection points; thus direct connection involves significant fixed costs and requires a great deal of traffic if it is to be profitable. Agreements concerning transmission are therefore an important premise for smaller electronic communications companies' connection to mobile networks.

107. Three mobile operators — Síminn, Og Vodafone, and IMC Island — offer call termination on mobile networks in Iceland. IMC Island's operations in Iceland have been limited, however. Since the company was granted a mobile frequencies licence in the year 2000, it has concentrated chiefly on the sale of foreign subscriptions. PTA is of the opinion that the scope of IMC's operations in the mobile market in this country does not affect market conditions at present. The number of minutes of call termination on the IMC mobile network was roughly 0.1% of the total number of minutes originating in domestic mobile networks during the first half of the year 2005. The company's revenues for call termination on its mobile network totalled approximately ISK [REDACTED] for the same period, or about 0.1% of total revenues in the country. Call termination on IMC's mobile network, as well as revenues resulting

from it, must therefore be considered too small to make an impact. In the opinion of PTA, IMC's operations on the relevant market are so limited that the company cannot be considered to have SMP. In view of this, PTA does not consider it necessary to conduct further analysis of IMC Island's position in the relevant market at the present time. Strictly speaking, this conclusion is inconsistent with the definition of the relevant service market; that is, that each mobile network is considered a single market. PTA is of the opinion, however, that further analysis of IMC's position in the relevant market serves no purpose and that, based on the foregoing, it cannot be concluded that obligations should be imposed on the company. PTA believes that this will affect neither the results of the analysis nor the assessment of Síminn and Og Vodafone's market power in the relevant markets during the lifetime of this analysis.

108. Síminn, which is the former monopolist for electronic communications operations in this country, was designated with SMP in the interconnection market in the year 2001 when its authorisation to operate an electronic communications network and electronic communications services was reissued pursuant to the previous Telecommunications Act, no. 107/1999. With a PTA decision dated 23 April 2003, Síminn was required, effective 1 June 2003, to reduce its prices for call termination in its own GSM network to ISK 8.92 exclusive of VAT, plus an interconnection charge of ISK 0.68.<sup>27</sup> As a result of this decision, Síminn's per-minute price became the same for calls terminated at night or during the day.

109. With a ruling rendered by the Rulings Committee for Electronic Communications and Postal Affairs on 21 October 2003, Og Vodafone was designated with SMP in the interconnection market pursuant to the previous Telecommunications Act.<sup>28</sup> In the wake of the ruling, Síminn demanded that PTA require immediately that Og Vodafone conduct a preliminary cost analysis of its interconnections charges. As an alternative, Síminn demanded that the current difference in interconnection charges on mobile networks be reduced significantly. Og Vodafone's preliminary cost analysis was received by PTA in June 2004, together with a rationale for the amount that the company charges for call termination in its mobile network. PTA presented criticisms of the preliminary draft, and Og Vodafone consented to them. The criticisms primarily involved co-ordinating methodology, as much as possible, with the calculations that Síminn had submitted to PTA a year prior. It should be mentioned that the calculations that the company submitted to PTA resulted in somewhat higher call termination prices than those contained in the company's price list. It was PTA's conclusion that Og Vodafone had demonstrated that the historical cost basis on which the company's price list was founded could be rationalised by considering the cost analysis methods used.<sup>29</sup> On the other hand, Og Vodafone's mobile operations were not separated from other operations; therefore, the figures upon which the above-mentioned calculations were based depended on the company's assessment of the division of costs. PTA did not make any comment on the company's price list at that time, but it reserved the right to review its decision in the wake of the results of the market analysis, which is now complete, and to impose

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<sup>27</sup> See PTA's decision of 23 April 2003 on Síminn's interconnection prices ([www.pfs.is](http://www.pfs.is)).

<sup>28</sup> See the decision by the Rulings Committee for Electronic Communications and Postal Affairs, dated 21 October 2003 ([www.pfs.is](http://www.pfs.is)).

<sup>29</sup> See PTA decision of 15 July 2004 on preliminary cost analysis in Og fjarskipti's electronic communications networks ([www.pfs.is](http://www.pfs.is)).

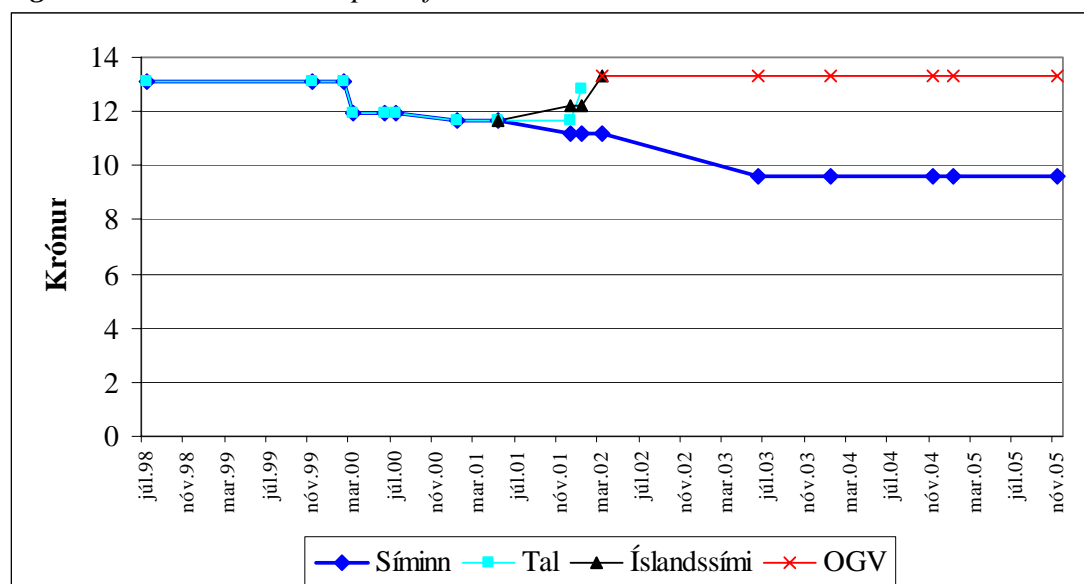
new obligations, or to choose other cost analysis methods in evaluating interconnection charges.

### 4.3 Price trends

110. Price trends over a specific period of time can indicate how much competition there is between undertakings. If prices are stable over a given period of time, it is possible to draw the conclusion that there is little competition and that operators in the market are satisfied with their position. Regular, harmonised changes in price can be an indication of price fixing in the market, while irregular, fluctuating price changes are characteristics of vigorous competition. In the relevant markets for voice call termination on individual mobile phone networks, price and price trends for termination give a reliable picture of the competitive position of the mobile phone companies currently in operation.

111. For the year 2005, the call termination price in Síminn's GSM network consisted of an interconnection fee of ISK 0.68 and a per-minute charge of ISK 8.92, which means a total of ISK 9.6 for a one-minute call. For the same period, Og Vodafone's call termination price was dual: the day rate was ISK 13.2 and the night rate was ISK 11.0, in addition to a connection fee of ISK 0.99. This totals ISK 14.19 for a one-minute call at the day rate and ISK 11.99 for a one-minute call at the evening rate. Og Vodafone's average termination price for a one-minute call at the day rate and the evening rate is roughly 36.4% higher than that charged by Síminn. In the opinion of PTA, this difference in call termination price between Síminn and Og Vodafone is too large and is unacceptable, both for operators that must purchase termination from Og Vodafone and for users of both companies' services.

**Figure 1.** Call termination price for a one-minute call on GSM networks.



**Source:** Post and Telecom Administration

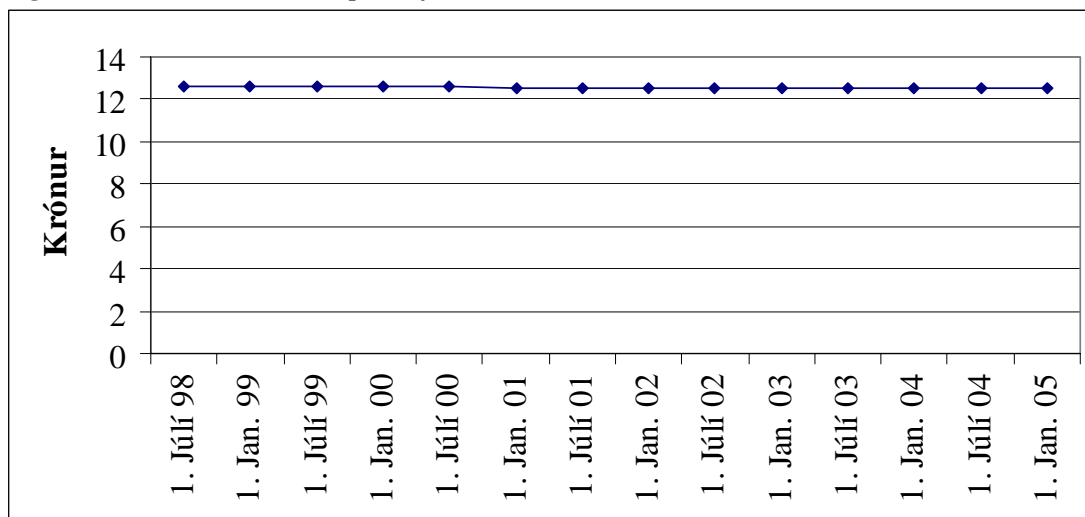
**Explanation:** Based on average of day and evening rates.

112. Figure 1 shows trends in call termination prices on GSM mobile networks in Iceland from the middle of the year 1998. The data include the per-minute charge

with connection fee, and day and night rates are averaged. In July 1998, Tal and Síminn had reciprocal prices for call termination: ISK 13.46/minute at the day rate and ISK 11.39/minute at the evening/weekend rate, plus a connection fee of ISK 0.68. In November 1999, Íslandssími concluded an interconnection agreement with Síminn for the same termination price as that paid by Tal. In March 2000, Tal and Síminn reduced their call termination prices to ISK 12.5/minute at the day rate and ISK 10/minute at the evening/weekend rate, plus the same connection fee of ISK 0.68. On 1 January 2001, day-rate call termination prices dropped to ISK 12/minute at both companies, while the evening rate and the connection charge remained unchanged. Íslandssími began operations in the first half of the year 2001 and offered the same termination prices as Síminn and Tal. The three companies' termination prices were reciprocal until 1 December 2001, when Íslandssími raised its prices, whereupon Tal raised its prices on 1 January 2002. At the same time, however, Síminn reduced its call termination prices. Síminn reduced its prices again in response to a PTA ruling dated 1 June 2003, when PTA stipulated a 15% reduction of Síminn's termination prices based on a cost analysis. At that time, Síminn's call termination prices dropped to a single rate of ISK 8.92/minute with an unchanged connection fee of ISK 0.68, and it has remained unchanged since that time. When Tal and Íslandssími merged in 2002 (thus forming Og Vodafone), termination prices at the new company rose to ISK 0.99 for the connection fee, ISK 13.5/minute for the day rate, and ISK 11.15 for the evening rate. These prices have remained unchanged since that time.

113. During the year 2005, the call termination price on Síminn's NMT network consisted of a connection fee of ISK 0.68, with a per-minute charge of ISK 12.5 at the day rate and ISK 11.25 at the evening rate; this means that a one-minute call at the day rate cost ISK 13.18, while a one-minute call at the evening rate cost ISK 11.93.

**Figure 2.** Call termination price for a one-minute call on Síminn's NMT networks



**Source:** Post and Telecom Administration

114. Figure 2 shows the trends in call termination price for a one-minute call in Síminn's NMT network. The graph shows the per-minute charge with connection fee, and day and night rates are averaged. The call termination price dropped once during the period when a small change was implemented on 1 November 2000. The change involved an increase in the connection fee, from ISK 0.47 to ISK 0.68, accompanied by a drop in the day rate from ISK 12.86 to ISK 12.5 per minute and a reduction in

the evening rate from ISK 11.39 to ISK 11.25 per minute. The price change did not have any perceptible effect on the price for a one-minute call and is hardly visible.

115. As is stated above, the cost for call termination between mobile networks in this country is borne by the caller; this arrangement is the same as that widely used abroad. In the United States and several other countries, however, this is handled differently, and mobile operators charge their own subscribers for call termination from other networks (the Receiving Party Pays, or the RPP principle).

116. Surveys of call termination prices have revealed that they are higher in markets where the CPP principle is used rather than the RPP principle.<sup>30</sup> It is believed that the higher call termination prices in CPP locations can be traced to a shortage of competitive incentive among mobile operators and lower price awareness among users concerning what expense — or how much — accompanies call termination in another mobile network. Some economists maintain that high call termination prices are used to subsidise both equipment for own users and the cost of procuring customers, and that prices are not in line with expenses in most countries.<sup>31</sup>

117. Figure 3 shows a comparison of call termination prices among countries. It contains a graphic representation of the average price for call termination on mobile networks in Europe. The price includes a connection fee and is based on an average call length of 3 minutes. This is a weighted average of prices among mobile operators in each country and is based on market share as calculated from the number of customers with mobile phone subscriptions and prepaid phone cards.<sup>32</sup>

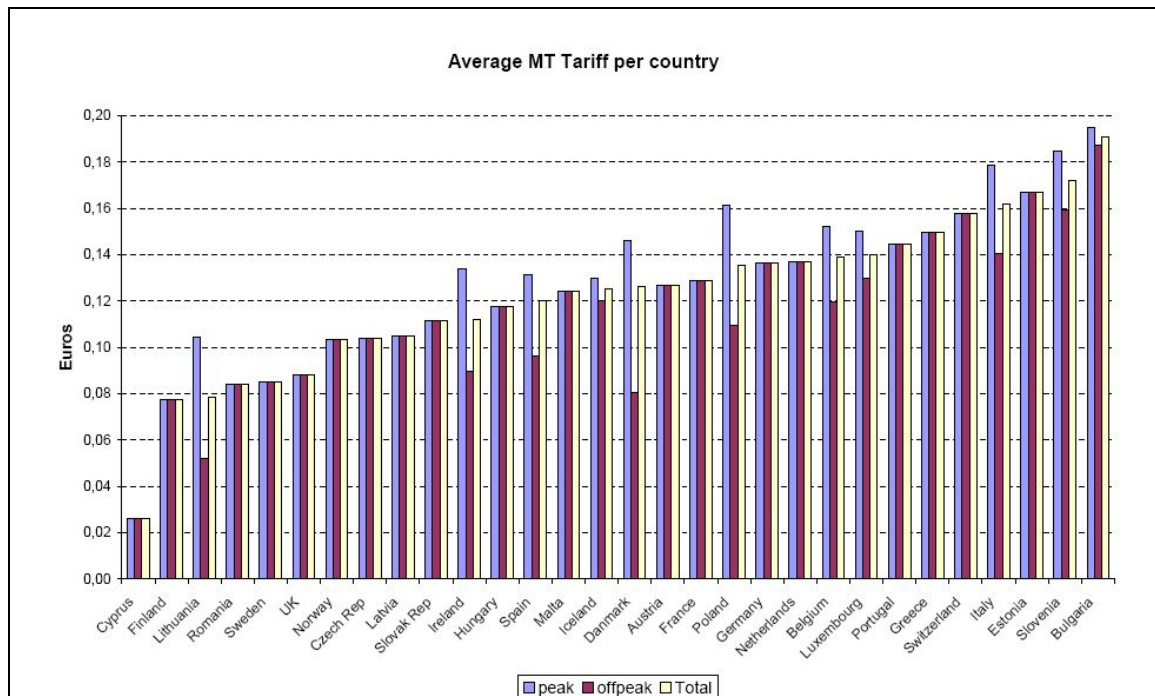
**Figure 3.** Comparison of average call termination prices in Europe. Prices from 1 July 2005.

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<sup>30</sup> See Crandall and Sidak; Joshua Gans, Sephan King, and Julian Wright, *Wireless Communications, Handbook of Telecommunications Economics* (Martin Cave et. Al eds., North-Holland Volume 2) (2004); Chris Doyle and Jennifer C. Smith, Regulation Initiative Working Paper No. 21: *Market Structure in Mobile Telecoms: Qualified Indirect Access and the Receiver Pays Principle* (May 1999), available at <http://ssrn.com/abstract=321420>.

<sup>31</sup> See Federal Communications Commission FCC 04-247: [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-04-247A1.doc](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-04-247A1.doc). See also Ovum, *Mobile termination rates, January 2004*: <http://store.ovum.com/detail.aspx?ID=729>.

<sup>32</sup> See premises for IRG calculations: <http://irgis.anacom.pt/admin/attachs/385.pdf>.



Source: National regulatory authorities/Independent Regulators' Group (IRG)

118. Figure 3 shows that the average call termination price in Icelandic mobile networks is in 15<sup>th</sup> place of a total of 30 in Europe, and that it has risen from the eighth-lowest position since 31 December 2004. It shows that the average termination price has been dropping in many European countries while remaining constant here. This is the case despite the fact that there are various criteria that reduce Iceland's relative prices for the purposes of this comparison. In this context, it should be pointed out that Síminn weighs heavier in the average price for Iceland due to the company's larger market share. In addition, the previously mentioned PTA decision concerning the 15% reduction of Síminn's call termination price affects the results. Moreover, the strength of the Icelandic króna has a positive effect on the average price in international comparison.

119. In view of the foregoing, PTA is of the opinion that numerous factors indicate that the price for call termination in mobile networks in Iceland is higher than is warranted by expenses; this is especially the case for GSM calls. In this context, it should be pointed out that, from the year 2000 to the year 2004, calls between GSM networks increased in minutes by a factor of 2.5; at the same time, call termination prices have risen by 1.6% at Og Vodafone and have dropped by 26.7% at Síminn. In addition, it must be considered as established that the retail price for off-net calls is twice as high as that for on-net calls largely because termination rates are high in comparison to those for on-net calls. This stems primarily from the way in which these calls are charged (the CPP principle) rather than from real costs, as has previously been stated. Voice calls that originate and terminate in the same network seem to be subsidised, while price separation is directed at externally generated traffic through call termination charges that are substantially higher for off-net calls than for on-net calls.

120. It is PTA's conclusion that the drop in Síminn's call termination prices can be traced to reductions in expenses and pressure from PTA rather than to restraining

influences from competition on the market. It also arouses interest — and is a cause for worry — that other mobile operators have not seen fit to reduce their call termination prices despite Síminn's reductions. Síminn began offering GSM mobile services in 1994, while Tal began offering services in competition with Síminn in 1998 and Íslandssími began doing so in 2001. It was in the year 2002 that Halló! frjáls fjarskipti hf., Tal, and Íslandssími merged to form the single company that later became Og Vodafone. In this context, PTA wishes to point out that Síminn has operated on the mobile market four years longer than Og Vodafone and its predecessors, and as of January 2006, four years have passed from the time that Iceland's mobile operators' termination prices were the same.

121. PTA considers it appropriate to mention here that both Síminn and Og Vodafone offer GSM subscription options that provide users with the option of free minutes for calling specific numbers within the same network or company. PTA has not examined the effects of on-net versus off-net calls. Og Vodafone has pointed this out and states that on-net traffic increased significantly as a result of increased free minutes, which do not generate increased revenues. In the opinion of PTA, it can be assumed that increased traffic stems partially, but not solely, from increased free minutes. In addition, PTA assumes that the same applies to both operators, as they offer similar benefits to their respective users.

122. PTA has discerned from the two consumer surveys conducted by IMG Gallup that Og Vodafone's customers seem to be somewhat better informed of the cost of placing a call to a mobile phone in their own network or in another network; furthermore, they seem, to some extent, to be more aware of whether they are calling another mobile network and to respond to this to some degree. This is not true to a large enough extent, however, that it affects PTA's conclusion that users are not highly aware of what it costs to place a call from a mobile phone, and even though most of them know that it is more expensive to call between networks, it does not seem to make much difference whether a user knows what network he is calling. A large proportion of users do not realize whether they are calling a mobile phone within their own network or in another one, and the majority do not know what it costs.

123. It is PTA's opinion that the various subscription options and complicated offers reduce users' possibilities for gaining awareness of what it costs to place calls to and from mobile phones. In this context, it should be pointed out that the PTA survey carried out in April 2005 revealed that half of those who responded considered electronic communications companies' information concerning price, subscriptions, offers, and the like either somewhat complicated or very complicated. It can be assumed that the difference in the per-minute price for on-net and off-net calls is not conducive to enhancing users' level of price awareness and knowledge, and that it compromises transparency and customer mobility.

#### **4.4 Market share<sup>33</sup>**

124. The market share of an undertaking in the relevant market is an important criterion in the market analysis. On the other hand, it alone is not sufficient to

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<sup>33</sup> This criterion corresponds to "market shares" in Paragraphs 76 and 77 in the Guidelines.

determine whether an undertaking has SMP, though it can give a strong indication of whether that undertaking has a dominant position. It is considered likely that a company with a market share of 50% has a dominant position, and it would be exceptional if a company with such a market share did not have SMP. According to the Guidelines, there should be no suspicion that an undertaking has a dominant position until it has acquired a market share of over 40%. This depends, however, on the size of the undertaking in question in comparison with its competitors. In some instances, an undertaking with a market share under 40% can be dominant. An undertaking with a market share under 25% would, in all likelihood, not be considered to dominate unless it were a case of collective dominance with other entities.

125. In accordance with the definition of the wholesale market for voice call termination on individual mobile networks, each electronic communications network is considered one market, which means that there is only one MNO in each market. This means that, irrespective of what measure is used, each mobile operator has a 100% market share in the relevant market. As has previously been discussed, PTA is of the opinion that there is no reason to examine IMC Island's position further in this document; therefore, Síminn and Og Vodafone are the only operators whose market shares are under scrutiny. In accordance with the above information, both Síminn and Og Vodafone have had a monopoly on call termination in their own mobile networks (GSM and NMT) ever since they began to offer mobile services in this country.

126. The fact that Síminn and Og Vodafone have a 100% market share in the relevant markets indicates that both companies possess SMP on the wholesale market for call termination in their own mobile networks and can, to a large degree, operate without concern for customers and other electronic communications operators.

#### **4.5 Entry barriers and potential competition<sup>34</sup>**

127. The threat of potential competition from new operators on the market can have a counterbalancing effect on operating companies and reduce the possibility that they will raise prices without concern for competitors and customers. Entry barriers, on the other hand, can weaken or prevent potential competition.

128. Many of the conclusions from the analysis of Market 15 on access and call origination in mobile networks also apply to the market under scrutiny here, as both are mobile markets. In the assessment of entry barriers in Market 15, it was revealed, *inter alia*, that there are high sunk costs associated with entry into the mobile market, the market has reached a certain saturation, and the rate of growth in the number of customers has slowed. Various criteria indicate that Síminn has a strong position in the mobile market; for example, the overall size of the company, economy of scope, and easy access to sales and distribution systems. On the other hand, both Síminn and Og Vodafone have sound and excellent experience, both possess economy of scale, and both have relatively easy access to capital. All of these affect the relevant market.

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<sup>34</sup> These criteria correspond to “*barriers to entry*” and “*potential competition*” in Paragraphs 79 and 81 in the Guidelines.

129. In accordance with the results of the analysis for Market 15, the relevant market for call termination on individual mobile networks in this country is characterised by considerable entry barriers and does not offer the potential for competition. In this context, it is worth pointing out that it is not foreseeable that new operators will enter the market in the next two years (which is the expected lifetime of this analysis) in light of, among other things, the competition conditions and the requirements, stipulated in frequency licence, concerning minimum build-up of the mobile network. As technology is today, only operators with their own mobile networks can offer call termination, and they can offer it only in their own networks. New mobile operators entering the market have no choice but to negotiate for interconnection with currently active network operators in order to offer their users the option of calling users in other networks.

130. An important factor that influences this is the CPP principle, which, in practise, mitigates the competitive effects of the entry of new operators into the mobile market. With the CPP principle, there is little incentive for users to switch service providers because a new competitor offers lower call termination prices. Indications of limited price awareness among users support this, as was demonstrated in the consumer surveys previously mentioned: the surveys revealed that just over one in ten participants believed he knew the cost of a one-minute call from one mobile network to another; see Section 2.3.2.

131. In the opinion of PTA, unequivocal entry barriers and a shortage of potential competition indicate that Síminn and Og Vodafone have significant market power in call termination on their own mobile networks and can, to a substantial degree, operate without concern for competitors, customers, and consumers.

#### **4.6 Countervailing buying power<sup>35</sup>**

132. Customers with a strong negotiating position can make an impact on competition and restrict providers' potential to operate without concern for their customers. Such a position exists primarily when a customer buys a large portion of an operator's production, is well informed of other offerings, can switch to another operator without significant expense, and even has the potential to offer a comparable product/service.

133. As has been revealed, the definition of the relevant market is such that only one mobile operator exists in each market. Despite the fact that each mobile operator has a 100% market share in the relevant market, market power depends on the negotiating power of the customer (countervailing buying power) and the effect that this power has on the operator's behaviour.<sup>36</sup> In view of this, it is necessary to evaluate whether, and to what extent, this countervailing buying power exists in the market for call termination on individual mobile networks and under what circumstances customers at the wholesale and retail levels can affect operators' behaviour.

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<sup>35</sup> This criterion corresponds to "*countervailing buying power*" in Paragraph 79 in the Guidelines.

<sup>36</sup> See Explanatory Memorandum, page 34.

134. In the relevant wholesale markets, countervailing buying power can come from fixed-line network operators and other mobile network operators who purchase termination in a given mobile network. These network operators must purchase termination from the pertinent mobile network operator so that their customers can have the option of calling customers in that network.

135. Theoretically, large network operators such as fixed-line network operators can apply pressure to mobile network operators in negotiations for interconnection rates. The most effective weapon would be a threat to reject interconnection. In practise, however, this option is not very realistic, as there is a general requirement that electronic communications undertakings negotiate for interconnection with the network and service of other electronic communications operators, cf. Article 24 of the Electronic Communications Act (see Section 4.2).

136. It is also possible to maintain that buyers could use the wholesale price for termination as a weapon in negotiating; that is, they could threaten to raise their prices if the network operator does not reduce his. In this context, however, it should be pointed out that, in most cases, the largest network operators have been designated with SMP and generally cannot raise their termination prices without the approval of the regulatory authorities that, in many instances, have required that they conduct cost analysis of those prices. Síminn, for example, could not raise its prices for call termination in its fixed-line or mobile network without the approval of PTA; the same applies to the price for call termination on Og Vodafone's mobile network.

137. Síminn is the largest buyer of termination, both for mobile and for fixed-line calls, and Og Vodafone is also a large purchaser of Síminn's termination service. As of mid- 2005, Síminn had a market share of roughly 64.5% in terms of number of GSM customers and approximately 85% of PSTN access lines for fixed-line calls. As was discussed in Section 4.3, the price for call termination on Síminn's mobile network has only dropped once since year-end 2001; this was done in response to a PTA decision in 2003.

138. Despite Síminn's size and market share, Og Vodafone has not seen fit to reduce its termination prices accordingly, as can be seen in Figure 1. Og Vodafone's average termination price for a one-minute call at the day and evening rates is approximately 36.4% higher than Síminn's. Actually, Og Vodafone and its predecessors have maintained a higher termination price than Síminn since December 2001 and have not demonstrated the desire or the interest in reducing the difference in the companies' termination prices. In this context, it is worth mentioning that, during the year 2004, the number of termination minutes for calls from other networks was greater in Og Vodafone's GSM network than in Síminn's GSM network, or approximately [REDACTED]. As Síminn's countervailing buying power has not sufficed to exert competitive restraint on Og Vodafone's wholesale price for termination, there is little or no likelihood that the buying power of other parties in the market would have such an effect.

139. In PTA's opinion, a lower wholesale price for call termination would not, all other things being equal, diminish mobile companies' gross revenues if the price drop generated an increase in the number of minutes of mobile phone use. A high price for voice call termination in other mobile networks could result in less mobile phone use

than would otherwise be the case. A comparison of several countries shows that the average per capita monthly use of mobile phones is generally less here than in Finland, France, Ireland, and Great Britain, for example, but more than in Germany; see Table 1.

**Table 1.** Average monthly mobile phone use in minutes

Countries	Minutes <sup>37</sup>
Finland	247
France	213
Ireland	198
Great Britain	144
Iceland	140
Germany	74

**Source:** Global Wireless Matrix, Q204, Merrill Lynch/ComReg data. Post and Telecom Administration.

140. A lower rate of mobile phone use in this country in comparison with other countries, as is shown in Table 1, indicates that there is room to increase mobile phone use considerably from current levels. This would be possible, for example, by reducing the termination price for calls between mobile networks. A lower retail price could generate increased use without a corresponding drop in total mobile phone company revenues. The large discrepancy between the retail price for on-net and off-net calls is likely to reduce customers' price awareness, which does not necessarily lead to increased use.<sup>38</sup> This is especially true since number portability became an option on 1 October 2004. Mobile users' price awareness is not great, as the results of the above-mentioned consumer survey revealed that over 80% of mobile users did not know what the per-minute charge for a call from a mobile phone was; this was the case for on-net and off-net calls.

141. After having evaluated the data that describe the conditions in the relevant market, PTA is of the opinion that no indications have emerged to suggest that there is, between currently operating mobile or fixed-line operators, countervailing buying power that could enable these undertakings to constrain the price of call termination in mobile networks. In the opinion of PTA, countervailing buying power at the wholesale level is not sufficient to exert the competitive restraint on wholesale call termination prices that is necessary to prevent currently operating mobile companies from having a dominant position in their own network.

142. Countervailing buying power at the retail level is limited, especially in light of the CPP principle. As was discussed in Sections 2.3.2 and 4.5, retail purchasers' price awareness is rather limited, which tends to diminish their reactions to price increases. It can be assumed that many small customers have less buying power than fewer, larger customers. It is PTA's opinion, however, that large customers' potential is also limited and is insufficient to affect termination prices.

<sup>37</sup> Average use in Iceland is based on the total number of minutes from Síminn and Og Vodafone's GSM mobile networks per user as an average for the first six months of the year 2004; average use for other countries is based on the second quarter of the same year.

<sup>38</sup> The comparison of retail prices is shown in the report on the wholesale market for access and call origination of calls on public mobile networks (market 15). It is revealed that there is a roughly 100% difference in the retail price for on-net vs. off-net calls in this country.

143. In PTA's opinion, there does not seem to be sufficient countervailing buying power on the market to make it possible to draw the conclusion that mobile operators do not have a dominant position in the market for call termination in their own mobile networks. The fact that substitutability exists neither in the wholesale nor in the retail markets, neither on the demand side nor on the supply side, diminishes the potential for countervailing buying power in the relevant markets. It appears that there is a shortage of desire and interest on the part of the mobile operators to reduce their call termination prices without intervention from PTA.

## **5 Assessment of significant market power**

### **5.1 General**

144. The assessment of significant market power (SMP) is based on Section 3.1 of the ESA Guidelines and on the criteria discussed in Section 4 of this document. In keeping with paragraph 76 in the Guidelines and with consideration given to current market conditions, PTA bases its assessment of SMP on the analysis of the relevant service markets as they are today, with consideration given to the developments of recent years and upcoming months and to the results of the analysis of Market 15 for access and voice call origination in public mobile networks.

145. Article 18, Paragraph 1 of the Electronic Communications Act, no. 81/2003, cf. Article 12 of Act no. 78/2005 Amending the Electronic Communications Act, states the following: *An undertaking shall be deemed to have significant market power if it, either individually or jointly with others, holds a position of economic strength on a certain market which enables it to prevent effective competition and to operate to a substantial extent without concern for competitors, customers and consumers.*

146. This is an important point of departure in the market analysis. The same applies to that which is stated in paragraph 74 of the Guidelines: that, in a market analysis such as that contained in this document, market power is measured chiefly with reference to an undertaking's ability to raise prices without significant loss of sales.

147. PTA wishes to emphasise that it is significant market power that is the appropriate measure and not abuse of a dominant position. Thus the consideration of whether a dominant position has been abused or not is not the fundamental point of the market analysis. The above provision shows that it is only necessary to demonstrate that the possibilities are extant, not that they have been utilised. This does not mean, however, that an undertaking's behaviour in the market does not make any difference in the assessment of SMP. Even though the formal aspects of the market are most meaningful, behaviour that promotes a dominant position or maintains a dominant undertaking's competitive advantage can diminish competition in the market.

148. As was revealed in Section 4.4, an assessment of market share is not sufficient, in and of itself, to determine whether an undertaking should be designated with SMP in a market. It is necessary to examine all appropriate criteria. A

determination of SMP cannot be based entirely on one criterion; instead, it must be founded on a number of criteria and their interplay with one another.

149. A company can be designated with SMP by itself (single dominance) or collectively with one or more other companies (collective or joint dominance). On the other hand, the question of collective dominance does not apply here because, as has been discussed, each mobile network is a separate market and there is thus only one company in each market.

## **5.2 PTA's assessment of significant market power in the relevant market**

150. As been discussed, there are three companies in this country that offer call termination in their own mobile networks, which falls under the description of the relevant market. Síminn and Og Vodafone are the largest operators, while the operations of the third, IMC Island, are still limited enough that PTA did not consider it necessary to conduct further analysis of IMC Island's position in the relevant market at the present time; see Section 4.2.

151. Both Síminn and Og Vodafone possess a 100% market share for call termination on their own networks, Síminn on its GSM and NMT mobile networks and Og Vodafone on its GSM mobile network. In the opinion of PTA, the relevant markets are characterised by absolute entry barriers, and potential competition is not foreseeable within the time horizon of the analysis. In view of the foregoing, most factors indicate that Síminn and Og Vodafone possess SMP. In order to come to a different conclusion, factors must exist that have a significant effect on these companies' market power. Such factors are found primarily in countervailing buying power.

152. Based on the market analysis, there are indications that the competitive conditions in the market do not generate pressure on the price for call termination in mobile networks. At present, technology does not offer the possibility of supply-side substitutability. There is insufficient countervailing buying power at both the wholesale and the retail levels, and nothing indicates that competitors, customers, or consumers could make an impact on Síminn and Og Vodafone's prices for call termination in their own mobile networks.

### **Síminn**

153. Síminn is the largest electronic communications undertaking in Iceland and operates in all defined electronic communications markets. Síminn was the first operator on the mobile market and offers mobile services throughout the country. It is also the largest purchaser of call termination in the wholesale market. In the opinion of PTA, it cannot be seen that there are demand-side conditions that could reduce Síminn's market power in call termination on its own mobile networks. Síminn's position, both in the relevant market and in the mobile market in general, indicates that it could, to a significant extent, operate without concern for competitors, customers, and consumers. Considering these factors, it is PTA's assessment that Síminn possesses significant market power in the wholesale market for call termination on its own networks, both GSM and NMT.

### **Og Vodafone**

154. Og Vodafone is the second-largest electronic communications undertaking in Iceland and also operates in all defined electronic communications markets. Og Vodafone also offers mobile services throughout the country. In the opinion of PTA, Síminn's position in the mobile market, as the largest purchaser of call termination, does not exert downward pressure on the price for call termination on Og Vodafone's mobile network. Call termination prices at Og Vodafone and its predecessors have been higher than those charged by Síminn since December 2001 and are now 36.4% higher based on a comparison of the average price charged by the two companies (see Figure 1). Reductions in Síminn's call termination price over the past few years have not led to a drop in Og Vodafone's termination prices. Og Vodafone's position in the relevant market indicates that the company could, to a significant extent, operate without concern for competitors, customers, and consumers. Considering this, it is PTA's assessment that Og Vodafone possesses SMP in the wholesale market for call termination on its own GSM network.

## **Conclusions**

155. In light of the above market analysis, PTA intends to designate Síminn and Og Vodafone with significant market power in the relevant wholesale markets for call termination in their own mobile networks. This conclusion is consistent with the results that other regulatory authorities in the EEA have obtained in their analyses of the relevant market.

## **6 Imposition of remedies**

### **6.1 Remedies — general**

156. If market analysis reveals that there is not effective competition in the relevant market and that one or more electronic communications undertakings in that market possess significant market power, PTA is required to impose at least one specific obligation on the operators designated with SMP.<sup>39</sup>

157. If PTA has previously imposed specific obligations on operators pursuant to the previous Telecommunications Act, these shall be reviewed and either maintained, amended, or revoked in accordance with the results of the market analysis.

158. Article 27 of the Electronic Communications Act states that when an electronic communications undertaking is designated with significant market power, PTA may impose on it obligations concerning transparency, non-discrimination, accounting separation, open access to specific network facilities, price controls and cost accounting, as necessary for the purpose of promoting effective competition.<sup>40</sup> These obligations are described more fully in Articles 28 – 32 of the Act.

159. The obligations that it is possible to impose on undertakings in retail markets include access to leased lines at a cost-oriented price, cf. Article 33 of the Electronic Communications Act, and carrier selection and pre-selection, cf. Article 53 of the same Act.

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<sup>39</sup> See Paragraphs 21 and 115 in the Guidelines.

<sup>40</sup> See Articles 9 – 14 of the Access Directive.

160. In selecting obligations to be imposed in order to solve given competition problems, it is necessary to use certain fundamental principles as guidelines.<sup>41</sup> All imposed obligations shall be based on the nature of the defined problem and shall be designed to solve that problem. They shall be transparent, justifiable, reasoned, and in line with the objectives they are designed to achieve; that is, to promote competition, contribute to the development of the internal market, and safeguard users' interests. Obligations must be proportionate and may not impose heavier burdens on operators than is considered necessary.

161. In the previously mentioned ERG report on remedies, emphasis is placed on infrastructure-based competition through the restructuring of electronic communications facilities or networks where this is considered desirable. In such cases, imposed obligations should promote such build-up. When infrastructure-based competition is not considered desirable due to significant and constant economies of scale and scope or other barriers to entry, it is necessary to guarantee sufficient access to electronic communications networks and equipment at the wholesale level. In this context, it is necessary to ensure two things: first, to encourage service-based competition; and second, to guarantee a sufficient fee for access to existing electronic communications networks, thus providing an incentive for further investment in such networks, as well as renovation and maintenance of these networks.

162. For the long term, service-based competition that has its foundation in steered access to a cost-oriented price can be a tool for generating competition through the restructuring of electronic communications networks. This refers to that which is called "the investment ladder," and its objective is to create conditions that make it possible for new operators to build up their electronic communications networks step by step.

163. In selecting the obligations that are to promote competition in the relevant market, it is also possible to consider the position that would exist if obligations were not imposed on the relevant market and whether it would be sufficient to use competition legislation alone to guarantee active and effective competition.

## **6.2 Competition problems**

### **6.2.1 General**

164. The term *competition problems* refers to the conditions that are created in the market due to a dominant position held by one or more undertakings. These issues can entail the measures adopted by a dominant undertaking in order to force its competitors out of the market, hinder potential competition from entering the market, or abuse its position vis-à-vis consumers. The conditions that can be created by an undertaking with a dominant position are discussed above in the market analysis. The following discussion centres on the various measures that a dominant undertaking can adopt in order to force its competitors out of the market or hinder potential competition.

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<sup>41</sup> See Article 8 of the Framework Directive.

165. A dominant undertaking in the wholesale market can deny access or refuse business from operators that compete with its retail operations. Such measures can actually close markets — for example, in cases where the wholesale product is a necessary supply for the retail market — and can, in the end, lead to higher expenses for the competitor. Barriers to entry can also appear in forms other than direct rejection; e.g., as unfair terms or abnormal prices.

166. A dominant undertaking can also abuse its position by employing predatory or excessive pricing in an attempt to force competitors out of the market or to make unfair profits from consumers if competition in the market is lacking.

167. Even when it is required to grant access at a cost-oriented price, a dominant undertaking can discriminate against other operators to the advantage of its own operations by withholding information, discriminating with regard to quality, using delaying tactics, setting unfair terms, employing strategic design of services or products, and misusing information for their own benefit. These factors can affect the quality of competitors' products or services, raise their expenses, or hinder sales.

168. Further discussion of obligations can be found in the previously mentioned ERG report on the remedies that can be imposed on electronic communications undertakings with SMP and in PTA's summary of that report.<sup>42</sup>

## **6.2.2 Competition problems in the relevant market**

169. Competition problems in the relevant markets can be traced primarily to situations where an electronic communications undertaking that controls the network in which calls are terminated has a monopoly in the relevant market. Moreover, because of technological hindrances, calls can only be terminated in the network used by the called party. Thus it cannot be seen that there is the potential for competitive pressure in the relevant market, and this situation is not expected to change in the foreseeable future. The CPP principle also reduces the possibility that users will make an indirect impact on the pricing of call termination, as they must be considered insensitive to increases in price for the termination of calls to their own mobile phones. Mobile operators have a monopoly on call termination in their own networks and can therefore operate to a substantial degree without concern for competitors, customers, or consumers. This monopoly position held by mobile operators enables them to demand higher termination prices than they could if there were competitive pressure in the market.

170. Most competition problems in the relevant markets are related to call termination charges in the companies' mobile networks. Other problems can be related to rejection of interconnection, delayed interconnection, and discrimination. PTA is of the opinion that there is excessive pricing of voice calls originating in networks other than those in which termination takes place. It is PTA's opinion that the expense of off-net calls does not justify the doubling of prices over and above the price of on-net calls, whether through Síminn or through Og Vodafone. In PTA's opinion, this is, among other things, a consequence of the arrangement used for payment for call termination — that is, the CPP principle — wherein someone other

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<sup>42</sup> See [www.pfs.is](http://www.pfs.is) (Telecom Affairs/Market Analysis/Market analysis and obligations).

than the company's own customers bears the expense, and is a result of limited price awareness among consumers. The cost is transferred to those users who are connected to other mobile or fixed-line networks.

171. The large difference between the companies' call termination charges is also a problem and has a detrimental effect on consumers. Consumers have difficulty realising what a call costs, as retail prices reflect the companies' call termination prices for traffic from other networks, and the difference in price for on-net and off-net calls creates non-transparency because it is not certain that the caller knows what network he is calling in any given instance. This reduces transparency and customer mobility and works against users' interests.

172. In PTA's assessment, voice calls that originate and terminate in the same network appear to be subsidised, while price separation is directed at externally generated traffic through call termination prices that are substantially higher for off-net calls than for on-net calls. Excessively high termination prices can also affect the entry of new service providers into the mobile market; it can either deter them from entering the market or limit their ability to operate there in competition with other companies and gain market share. In the opinion of PTA, this indicates that the price for call termination in mobile networks is higher than is warranted by expenses.

### **6.3 Obligations in effect pursuant to the previous Telecommunications Act**

173. Síminn, which is the former monopolist for electronic communications operations in this country, was designated with SMP in the interconnection market when its authorisation to operate an electronic communications network and electronic communications services was issued pursuant to the previous Telecommunications Act, no. 107/1999. With a ruling rendered by the Rulings Committee for Electronic Communications and Postal Affairs on 21 October 2003, Og Vodafone was designated with SMP in the interconnection market pursuant to the previous Telecommunications Act.

174. The designation of mobile operators with SMP in the interconnection market pursuant to the previous Telecommunications Act shall be accompanied by the following obligations:

- The operators shall comply with all realistic and feasible requests for access to network connection points, including network connection points other than those offered to the majority of users.
- The operators shall guarantee non-discrimination with respect to the interconnections that they offer and shall grant companies that are considering interconnection access to all necessary information concerning both interconnection and the technological requirements.
- The fees charged by the operators for interconnection shall be transparent and based on the cost for network establishment and operation, as well as a reasonable return on capital employed on the basis of the cost accounting that shall be maintained.

175. The foregoing obligations concerning interconnection shall apply, among other things, to call termination in mobile networks. The obligations remain in effect until another decision has been reached, cf. Temporary Provisions II of the Electronic

Communications Act, no. 81/2003. The obligations concerning the market under scrutiny in this report shall be reviewed here. Those concerning other electronic communications markets shall be reviewed when the relevant markets are analysed.

#### **6.4 Proposed remedies pursuant to the new Electronic Communications Act**

176. It is important to examine the imposition of obligations on Market 16 with regard to the competitive situation in Market 15 so as to ensure that the obligations are likely to promote competition between mobile networks. Even though PTA recommends that Síminn be designated with SMP in Market 15 because of its strong position there, it is impossible to ignore the fact that Og Vodafone also has an good position in Market 15, with a market share of 35.5% as measured in number of customers; see also the discussion in Sections 4.1 and 4.5.

177. Considering both the foregoing discussion and the definition and analysis of the relevant market for call termination on individual mobile networks, PTA considers it necessary and appropriate to impose the following obligations on Síminn and Og Vodafone concerning the companies' GSM mobile networks:

- Access to mobile network for call termination
- Non-discrimination
- Transparency
- Accounting separation
- Price controls

178. With regard to Síminn's NMT mobile network, PTA considers it necessary and appropriate to impose the following obligations:

- Access to mobile network for call termination
- Non-discrimination
- Obligation not to offer higher call termination charges in the NMT mobile network than was in force on 31 December 2005

179. In the opinion of PTA, these obligations are consistent with the objectives set forth in the Framework Directive, the Access Directive, and the provisions of the Electronic Communications Act, and are appropriate for the time horizon of the market analysis. PTA considers that the obligations are likely to prevent the companies from engaging in discrimination and maintaining excessively high call termination prices. PTA considers it appropriate to impose comparable obligations on the companies.

##### **6.4.1 Access to mobile network for call termination**

180. Article 28, Paragraph 1 of the Electronic Communications Act states that PTA may instruct electronic communications undertakings with significant market power to meet normal and reasonable requests for open access to public electronic communications networks, network elements, and associated facilities under certain conditions prescribed by the Administration. Paragraph 2, Subparagraph (g) of the same Article states that it is permissible to require that electronic communications undertakings interconnect networks or network elements.

181. According to Article 24 of the Electronic Communications Act, all electronic communications undertakings operating public electronic communications networks or public electronic communications services shall have the right to and be obligated to negotiate interconnection of networks and services. Call termination in mobile networks falls within the scope of this provision, and it is therefore a peremptory requirement that mobile network undertakings offer other electronic communications companies call termination in their network. Therefore, PTA should not need to issue instructions concerning whether this access shall be granted by a special decision. On the other hand, it could be necessary to set specific terms concerning the handling of this access.

182. PTA considers that there have not been noticeable problems accompanying the conclusion of interconnection agreements; neither is it known that any electronic communications undertakings have been denied interconnection. There are, however, instances where interconnection agreements have taken an unnecessarily long time and that negotiations have been difficult; this seems to stem primarily from insufficient flow of information. PTA considers it important that there be no delays in the conclusion of agreements for interconnection and that the companies involved not defend themselves by citing technological barriers as an excuse. PTA will monitor the process to determine whether agreements for interconnection with mobile networks are concluded within reasonable time limits and whether normal technological demands are made. In order to prevent a situation where the entry of new companies into the electronic communications market is hindered through delays in negotiations for interconnection, PTA plans to stipulate that the agreements for interconnection shall be concluded without a delay or no later than within a month of their being requested. If an agreement between the parties is not effected, either party may request that PTA determine whether an interconnection agreement shall be made and on what terms.

183. Terms for interconnection are discussed further in relation to obligations concerning transparency, non-discrimination, and price controls.

184. As regards access to call termination in mobile networks, PTA has come to the conclusion that Síminn shall be required to negotiate for interconnection with electronic communications undertakings that offer public electronic communications services or networks and shall offer call termination in its GSM and NMT networks, in accordance with Article 24 of the Electronic Communications Act, cf. Article 28, Paragraph 2, Subparagraph (g) of the same Act. Og Vodafone shall be required to do the same with regard to its GSM network. Agreements shall be concluded without a delay or no later than within a month of their being requested. Both companies shall offer the possibility of connecting directly to their own mobile networks, and it shall not be a requirement that mobile phone traffic be routed first through the companies' fixed-line networks.

#### **6.4.2 Non-discrimination**

185. According to Article 30 of the Electronic Communications Act, PTA may impose on electronic communications undertakings with significant market power obligations of non-discrimination in approving interconnection or access. Such

obligations shall ensure in particular that an electronic communications undertaking applies equivalent conditions in equivalent circumstances to other undertakings offering electronic communications services and provides services and information to others under the same conditions and of the same quality as those it provides to its own service departments, subsidiaries or partners.

186. If obligations concerning non-discrimination are not imposed, significant market power among mobile operators in call termination in own network and a shortage of potential substitute services can lead to a situation where the companies discriminate against parties that need the service. They could, in particular, have an incentive to sell termination to unrelated parties at a higher price than they charge their own departments.<sup>43</sup> Such measures could prove damaging to competition and could harm consumers who must pay too high a fee for calls between different networks.

187. Even though companies have been guaranteed interconnection at a cost-oriented price, an operator with SMP could attempt to discriminate on premises other than price and thus raise the competitor's expenses in order to drive him out of the market. These could include poor dissemination of information, discrimination in quality of service, and undue requirements in negotiation. Fair, moderate, and just terms for access, including prices, are a fundamental premise of the attempt to promote competition. In the opinion of PTA, the non-discrimination obligation is well designed to mitigate the problems that arise from discrimination with regard to both price and other factors. PTA is of the opinion that the non-discrimination requirement is both fair and appropriate. It cannot be seen that this requirement involves great expense or disadvantage for the companies. The non-discrimination obligation does not mean that all companies must operate under exactly the same terms; instead, all differences in terms shall be based on objective considerations.

188. PTA criticises the fact that the retail price for mobile traffic originating in other networks is much higher than that for on-net calls. Low on-net rates could give mobile operators with a large number of customers a competitive advantage over smaller networks as regards attracting new customers or retaining present customers. Such methods could represent the equivalent of barriers for new electronic communications undertakings, as they must compete with reduced on-net rates. If wholesale prices for call termination are higher for external traffic than for on-net traffic, this could result in a price/margin squeeze with respect to current and new electronic communications companies. Neither Síminn nor Og Vodafone has submitted any documentation to indicate that the difference between on-net voice calls and those outside the network is based on objective considerations, and PTA is not in possession of any information that justifies the difference. It must therefore be inferred that the difference stems either from the fact that on-net calls are subsidised or from the fact that the termination price for calls from other networks is higher than is justified by expenses. This difference undermines the trust in the call termination prices that the operators in question offer to other companies.

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<sup>43</sup> See PTA decision of 12 April 2005 regarding Landssími Íslands hf.'s letter concerning Og fjarskipti's alleged violation of the obligation of non-discrimination.

189. Furthermore, PTA is of the opinion that differentiation with regard to termination prices that is practised in an environment characterised by non-transparency in the market and limited countervailing buying power due to the CPP principle is not a characteristic of a competitive market. In the opinion of PTA, the above-mentioned price differentiation is a consequence of the fact that mobile operators have a monopoly on call termination in their own networks and can operate without concern for competitors, customers, or consumers. In view of this, and until other information is revealed, PTA considers it appropriate to stipulate non-discrimination regarding the price for termination, in an operator's own mobile network, of calls from the same mobile network, from other mobile networks, or from fixed-line networks.

190. An obligation of non-discrimination has already been imposed on Síminn and Og Vodafone, on the basis of the companies' designation with SMP in the interconnection market, pursuant to the previous Telecommunications Act; see Section 6.3. In view of this, it cannot be considered onerous for them to continue to operate under this obligation. PTA considers it necessary to maintain this obligation, both in view of the above-mentioned difference and in order to ensure that the companies do not discriminate against the parties to whom they sell call termination.

191. With reference to Article 30 of the Electronic Communications Act, PTA intends to maintain the obligation on Síminn, regarding its GSM and NMT networks, and Og Vodafone, regarding its GSM network, that the companies practise non-discrimination in the conclusion of agreements for call termination in their respective networks. The companies shall grant all wholesale purchasers of call termination — including their own departments — service characterised by comparable terms, prices, and quality. Access to the network shall be granted within a comparable length of time. The companies shall organise their operations so that the information that emerges during the conclusion and implementation of interconnection agreements is handled in accordance with Article 26 of the Electronic Communications Act. Information concerning call termination business with other companies may not be delivered to other parties, including other divisions of the undertaking, its subsidiaries or partners.

### **6.4.3 Transparency**

192. According to Article 29, Paragraph 1 of the Electronic Communications Act, PTA may oblige an electronic communications undertaking with significant market power to make public specified information in order to increase transparency of interconnection or access to facilities of an electronic communications undertaking; e.g. accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices. Exemption from the requirement to make information public may be granted if an electronic communications undertaking can demonstrate that such involves important financial or commercial interests which it is reasonable and normal to keep secret.

193. Article 29, Paragraph 2 of the same Act states that when an electronic communications undertaking operates under an obligation of non-discrimination, PTA may require the undertaking to publish a reference offer, including an itemised description of the interconnection or access, together with terms and conditions,

including prices. PTA may stipulate changes in the reference offer and is authorised to adopt rules on the substance of such reference offers.

194. The transparency of terms and requirements for interconnection, including prices, serves the purpose of expediting negotiations, preventing disputes, and promoting market parties' faith that there is no discrimination in the provision of services. It is necessary that the technological demands that are made with respect to interconnection be clear and transparent, as this could prove especially important in guaranteeing co-ordination of operations.

195. As is previously stated, PTA intends to impose non-discrimination obligations on Síminn and Og Vodafone regarding call termination on their mobile networks. The obligation of transparency promotes compliance with the demand for non-discrimination and ensures that all parties can trust in that compliance. The terms that apply to network interconnection are important to new operators and can have a decisive effect on their potential for gaining market share. It is clear that the competitive position of these operators is in danger if they must be subjected to unequal terms. In addition, it makes it easier for companies to enter the market if it is clear what terms are offered for interconnection and what the foundation is for pricing and other terms.

196. In order that PTA may be able to ensure that non-discrimination is practised and that the terms for interconnection are fair and appropriate, it is necessary that the Administration receive a copy of the agreements that are concluded. PTA's access to interconnection agreements is required by law pursuant to Article 24, Paragraph 6 of the Electronic Communications Act; therefore, it is not necessary to stipulate it separately in relation to the market analysis. In order to enhance trust in termination prices, PTA considers it necessary that Síminn and Og Vodafone publicise, in collaboration with PTA, their accounting information pertaining to performance in GSM mobile networks. PTA is of the opinion that this requirement is authorised by Article 29, Paragraph 1 of the Electronic Communications Act.

197. There is already an obligation on Síminn to publicise a reference offer. This is based on the company's having been designated with SMP in both fixed-line network and leased lines; cf. Article 26 of the previous Telecommunications Act and the Rules Concerning Reference Offers for Interconnection, no. 94/2002. That being the case, this obligation should not be onerous for Síminn, though it could generate some expense for Og Vodafone, which has not yet been subjected to this requirement. PTA considers it necessary, however, to impose an obligation of transparency and the publication of reference offers in order to guarantee that the terms of interconnection are fair and appropriate and accessible to all concerned.

198. PTA intends, based on the authority contained in Article 29 of the Electronic Communications Act, to impose an obligation of transparency and the publication of reference offers on Síminn and Og Vodafone in accordance with the foregoing. The companies shall publicise the price for call termination in their mobile networks, together with information on the technological requirements for interconnection. The companies shall publish reference offers on interconnection no later than two months after the entering into force of the decision of implementing the remedies. Interconnection agreements for all mobile networks shall be submitted to PTA no

later than one week after their signing pursuant to Article 24, Paragraph 6 of the Electronic Communications Act.

#### **6.4.4 Accounting separation**

199. Pursuant to Article 31 of the Electronic Communications Act, PTA may impose on electronic communications undertakings with significant market power obligations for accounting separation between activities related to interconnection or access and other activities, so that it is possible to divide all income and expenses between operating units that are linked to the various services. In addition, the Administration may require an undertaking operating both electronic communications networks and electronic communications services to make transparent its wholesale prices and its internal transfer prices, *inter alia*, to prevent unfair cross-subsidy. PTA may determine what bookkeeping methods shall be used. To ensure transparency and non-discrimination, PTA may require that the Administration be provided with accounting records, including data on revenues received from third parties.

200. The purpose of accounting separation is, *inter alia*, to allow the analysis of bookkeeping information in order to show, as accurately as possible, the performance of individual parts of operations, as though these parts were separate companies. This itemisation of costs reduces Síminn's chances of charging for expenses that are not related to a particular service.

201. It is important that wholesale be kept separate from retail in mobile services in order to assess performance, with regard to whether the pricing of wholesale services is correct, whether there are examples of cross-subsidy, and whether all parties receive equal treatment regarding prices and terms. It is PTA's opinion that the obligation to maintain accounting separation is necessary in the relevant markets so that, among other things, it is possible to determine actual costs for call termination on Síminn and Og Vodafone's mobile networks. Accounting separation is also important in enhancing trust in the wholesale price's being based on costs.

202. Accounting separation fortifies the obligation of non-discrimination and is, in certain instances, necessary because of price controls; for example, to determine whether there is an appropriate difference between wholesale and retail prices. If the companies' expense figures are to be used in expense calculations, PTA considers it necessary that the companies practise accounting separation. In PTA's opinion, it is not otherwise possible to determine a realistic call termination rate. It is PTA's aim that, within two years, Síminn and Og Vodafone will have prepared a cost model according to LRIC methodology, and in PTA's assessment, this necessitates imposing on both companies the obligation to maintain accounting separation.

203. Síminn currently practises accounting separation for its GSM mobile services as a result of Competition Council Decision no. 17/1999. In view of the fact that Síminn already practises accounting separation, it must be assumed that the obligation will not generate increased expense or inconvenience for the company. PTA is of the opinion that imposing the obligation of accounting separation on Síminn is both appropriate and necessary and is not contrary to the principle of proportionality. Furthermore, PTA considers it necessary to review the methods that Síminn has employed with regard to accounting separation and possibly to make changes so as to

be able to assess as accurately as possible the performance of individual parts of operations, just as though they were separate companies.

204. Because Og Vodafone has not practised accounting separation heretofore, it is probable that the obligation will involve some expense and inconvenience for the company. It can be assumed, however, that this expense and inconvenience will not be significant, as Og Vodafone is already preparing to adopt the practise of accounting separation. In addition, PTA is of the opinion that consumer interests and the demand for more effective competition weigh more heavily than the expense and inconvenience sustained by Og Vodafone as a result. PTA considers it necessary to impose accounting separation in order to guarantee that the aims of the obligations are met and to ensure that call termination prices are fair and appropriate.

205. PTA intends, based on the authority contained in Article 31 of the Electronic Communications Act, to impose the obligation that Síminn and Og Vodafone maintain accounting separation for their GSM networks. The separation shall be handled in the manner described below.

206. In carrying out accounting separation, the operator must enter his bookkeeping in such a way that it is possible to divide all revenues and expenses according to operating units that can be linked to various services. Accounting separation is based on the fundamental rule of cause and effect; that is, expenses and revenues shall be divided according to the service or product that generates the expense or revenues. Expenses for the operation of networks and/or services shall be divided according to operating units with a work-based cost analysis that is based on the method of analysing expenses according to the actions that are carried out in the operating unit in question. This calls for appropriate and detailed methods for division of expenses.

207. The portion of expenses that cannot be divided on the basis of direct or indirect division of costs — that is, expenses that cannot be categorised through comparison with other expense items — shall be labelled specially in Síminn and Og Vodafone's accounts. Regulation no. 960/2001 on Accounting and Financial Separation in Electronic Communications Operations contains further stipulations on the methods used to carry out accounting separation.

208. Accounting separation shall be carried out with respect to revenues, expenses, assets, and liabilities for mobile services at the wholesale and retail levels. In addition, Síminn shall separate between its GSM and NMT networks. Síminn and Og Vodafone are required to submit to PTA, on an annual basis, a specially itemised profit and loss account and balance sheet for their wholesale and retail mobile network services, together with a summary of the division of indirect expenses that cannot be categorised through comparison with other expense items. The above-described summary for the prior year must be received by PTA by 1 April each year.

209. PTA does not consider it necessary to impose an obligation of accounting separation on Síminn for its NMT network. Síminn's operating licence for the 450 MHz frequency range expires on 31 December 2007. Síminn has announced that the company plans to cease operation of the network effective 1 January 2007. The terms in the licence for the frequency range are such that PTA may require that the company continue to provide NMT service for up to two years thereafter, or until 31 December

2008. In a letter dated 31 December 2005, PTA notified Síminn that it intended to exercise its authority to delay the closing of the NMT network until 31 December 2008. Most factors indicate that NMT services will be discontinued and that digital mobile services will take their place within a few years; therefore, PTA does not consider it necessary to impose an obligation concerning accounting separation for the NMT network.

#### **6.4.5 Price controls**

210. Pursuant to Article 32, Paragraph 1 of the Electronic Communications Act, PTA may impose on an electronic communications undertaking obligations concerning cost orientation of prices, as well as obligations concerning cost accounting systems for the provision of specific types of interconnection or access, if a market analysis indicates that a lack of effective competition means that an electronic communications undertaking with significant market power is demanding excessively high prices or that the difference between wholesale and retail prices is abnormally small.

211. PTA believes that the requirements of the foregoing provision exist in this market. The competition problems in the market are linked primarily to excessive pricing of voice calls originating in mobile networks other than that in which termination occurs. Wholesale prices for call termination are, for example, higher than the per-minute retail price, exclusive of VAT, for voice calls within the same mobile network. It is PTA's opinion that the expense of off-net calls does not justify the doubling of prices over and above the price of on-net calls, whether through Síminn or through Og Vodafone. In PTA's opinion, this is, among other things, a consequence of the arrangement used for payment for call termination — that is, the CPP principle — wherein someone other than the company's own customers bears the expense, and a result of limited price awareness among consumers. PTA believes that such a difference stems either from the fact that on-net calls are subsidised or from the fact that the termination price for calls between networks is higher than is justified by expenses. There is also a considerable difference in the termination prices charged by the two companies. PTA considers it undesirable that this difference continue. It works against the interests of consumers and diminishes transparency in the market.

212. In accordance with the foregoing, PTA considers that there is little that could exert downward pressure on call termination prices and that it is therefore necessary to monitor termination pricing in the mobile networks under scrutiny. Experience gained abroad shows that competition has not sufficed to reduce termination prices in line with the actual cost of providing termination services and that most of the regulatory authorities in Europe have imposed obligations in order to achieve a reduction in call termination prices.

213. PTA is of the opinion that the imposition of obligations concerning transparency, non-discrimination, and the publication of reference offers will not suffice to address the competition problems inherent in pricing. Section 5.5 in the ERG report on remedies states that price controls are a necessary part of the solution to such competition problems.

214. Regulatory authorities in the EEA use various methods to determine prices for voice call termination. According to Article 32, Paragraph 3 of the Electronic Communications Act, PTA may require an electronic communications undertaking to prepare a cost model for calculation of prices. PTA may, for the purpose of calculating prices, take into consideration the operating costs for similar services regarded as efficiently operated, take into consideration prices on comparable competitive markets, and use cost analysis methods independent of those used by the undertaking in question, cf. Article 32, Paragraph 4. In selecting a method, PTA considers it appropriate to emphasise that the method offer the possibility of yielding a result within a relatively short time; that it yield a result that is appropriate and fair to both parties; and that it yield a price that is not far in excess of real cost yet guarantees a fair return on investment.

215. The following are the chief methods used to determine wholesale prices:
- Historical cost: Until the present time, PTA has used this method primarily; it is based on analysing historical costs according to the accounts of the undertaking in question. The analysis of Síminn and Og Vodafone's costs for interconnection and termination is based on this method.
  - Methods based on the analysis of long-run incremental cost (LRIC). This method is based on the preparation of a cost model. There are various versions of this method.
  - Price comparison: Prices in comparable competitive markets are compared, and a price is determined on the basis of this comparison. The price is determined with reference to an average of a specific sample taken from the comparison group.
  - Retail minus: The retail minus method involves determining the wholesale price by subtracting a given percentage from the retail price. The difference that is subtracted from the retail price is for the expense that would otherwise have been incurred by the company at the retail level.

216. Pursuant to the previous Telecommunications Act, there is an obligation on Síminn and Og Vodafone to charge interconnection fees based on the cost for network establishment and operation, plus a reasonable return on capital employed on the basis of the cost accounting that shall be maintained; see Section 6.3. PTA has examined Síminn and Og Vodafone's GSM call termination prices, and on the basis on historical cost information from the companies' bookkeeping, a cost analysis of termination prices has been carried out; see Section 4.2. PTA is of the opinion that there are various indicators to suggest that the termination prices charged are considerably in excess of the companies' current expenses. PTA considers it necessary to re-evaluate prices in the wake of the market analysis. Cost analysis based on LRIC is a method that is recognised by the European Commission, as well as by others. The method guarantees transparency, and the regulatory authority is not dependent on information from the electronic communications undertaking's bookkeeping. On the other hand, the method is costly and time-consuming; therefore, PTA considers it appropriate to begin by using other, simpler methods. PTA is of the opinion that price comparison is a method that could give a good idea of a suitable price, in addition being relatively quick to carry out compared with the majority of other methods. The use of the method does not involve significant extra expense for the companies using it, as they must neither process information from their bookkeeping nor prepare a cost model.

217. PTA intends to determine the call termination price in Síminn and Og Vodafone's GSM networks through comparison with prices charged in comparable markets, and to use the average of the three lowest prices as a reference.<sup>44</sup> PTA has elaborated on the method in a document that has been presented for consultation for the benefit of Síminn and Og Vodafone and other interested parties; this document is presented as Annex 2 accompanying the draft measures.

218. PTA plans to pay close attention to the results of this method of price steering. If this method does not yield acceptable results, PTA plans to require that the companies prepare a cost model according to the LRIC method, with reference to an efficiently operated company, and to determine prices on that basis. In other respects, PTA makes reference to Annex 2 concerning information on methods and future scenarios.

219. In view of the foreseeable end of the NMT system and the small size of the NMT market, PTA does not consider it appropriate to require that a cost analysis be performed on call termination in the NMT network. It is not possible to employ price comparison with other countries, as NMT services have been discontinued in the majority of European nations. The obligation concerning non-discrimination could have some effect on NMT pricing, as other Síminn departments must also purchase call termination in the NMT network. Though non-discrimination alone is generally no guarantee of acceptable call termination prices, PTA considers it appropriate, in the interest of avoiding undue strain on the system's operations, not to adopt further measures in this case. For this reason, PTA intends only to require that Síminn does not offer higher call termination charges in the NMT mobile network than was in force on 31 December 2005 of ISK 14.4 at the day rate and ISK 13 at the evening rate, with a connection charge of ISK 0.68.

220. PTA intends, based on the authority contained in Article 32 of the Electronic Communications Act, to impose an obligation concerning price controls on Síminn and Og Vodafone with respect to the call termination prices in their GSM mobile networks. PTA intends to determine the call termination charge in Síminn and Og Vodafone's GSM networks through comparison with prices existing in comparable markets; see Annex 2. As regards the NMT mobile network operated by Síminn, PTA intends to require that Síminn does not offer higher call termination prices than was in force on 31 December 2005.

221. In order to monitor changes in wholesale price lists, PTA considers it appropriate to require that all new wholesale prices set by Síminn and Og Vodafone, and all changes in wholesale prices, be reported to the Administration. New wholesale prices will therefore not take effect unless approved in advance by PTA.

#### **6.4.6 Discussion of proposed remedies**

222. The imposition of obligations on electronic communications undertakings is not subject to the requirement that dominant position have been abused; instead, it is

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<sup>44</sup> It should be mentioned that the countries that employ price comparison, such as Denmark, will be omitted from PTA's price comparison.

sufficient to show that in existence are conditions that enable undertakings with a dominant position to misuse their power. The obligations are intended to create the conditions for effective competition by diminishing the potential for abuse or for conduct that hinders competition.

223. The ERG report on remedies states, among other things, that when there is a danger that an undertaking with significant market power on the termination market will use its market power in order to set termination prices in excess of expenses, which leads to distorted pricing, a regulatory authority may address the problem by imposing obligations concerning transparency and non-discrimination, as well as an obligation concerning price controls. The report also states that in order to target termination prices directly, it is necessary to set cost-oriented prices based on the obligation concerning price controls and cost accounting. It could prove necessary to support this with an obligation concerning accounting separation.

224. In the opinion of PTA, the conditions in the relevant market necessitate the imposition of the obligations proposed for Síminn and Og Vodafone. PTA is of the opinion that these obligations are likely to reduce the discrepancy in termination prices and equalise the difference between the prices for on-net and off-net calls on mobile networks. PTA believes that this will facilitate enhanced transparency, which is the foundation for competitive pricing in the market, better market conditions, increased traffic, and fairer prices to users. If these obligations do not suffice to rectify the situation, then PTA will reconsider its decision within a reasonable time limit.

225. The obligations that PTA intends to impose on Síminn and Og Vodafone in the relevant market are wholesale obligations. They aim at creating conditions conducive to increased competition in the mobile market, promoting greater consistency in call termination prices for voice calls within and outside a given network, and promoting pricing based on actual costs. Despite the fact that the obligations that PTA intends to impose on the two companies in the relevant market do not directly guarantee a lower retail price to consumers, PTA believes that retail prices will drop as a result of reductions in call termination prices. PTA believes that these obligations will lead to more effective competition and will facilitate the possible entry of more service providers, which will ultimately work in the interest of consumers.

## **6.5 Assessment of the effects of proposed obligations**

226. In keeping with the principle of proportionality, it is appropriate to assess the effects and consequences of the obligations that PTA intends to impose on Síminn and Og Vodafone in the relevant markets.

### **6.5.1 Síminn**

227. On the whole, the obligations that PTA intends to impose on Síminn represent some burden to the company. On the other hand, PTA considers the obligations to be consistent with the principle of proportionality and does not believe that they represent a greater burden than necessary. In view of Síminn's strong position on the mobile market in general, and the company's position in the relevant market, PTA

considers it necessary to impose all of the above-mentioned obligations on Síminn in order to promote increased competition and to protect consumer interests. Because other obligations are not better suited to achieving the intended goals, PTA is of the opinion that the burden they represent for Síminn should not be the determining factor in their imposition. Furthermore, there are already obligations on Síminn pursuant to the previous Telecommunications Act, and in the opinion of PTA, these are, in most cases, comparable to the above-described obligations and should therefore not be considered onerous.

### **6.5.2 Og Vodafone**

228. As is the case with Síminn, the obligations that PTA intends to impose on Og Vodafone represent some burden to the company. On the other hand, PTA considers the obligations to be consistent with the principle of proportionality and does not believe that they represent a greater burden than necessary. Og Vodafone, as one of two mobile operators in the country, has an excellent position in the mobile market, and its strong position in the relevant market has been discussed in detail. Therefore, PTA considers it necessary to impose all of the above-described obligations on Og Vodafone in order to promote increased competition and to protect consumer interests. It is also necessary to guarantee acceptable competition conditions for new operators entering the mobile market. The above obligations are not unlike those currently imposed on Og Vodafone and, for that reason, should not represent abnormal burdens for the company.