

Appendix A



**POST- AND TELECOM
ADMINISTRATION**

- Market Analysis

**Analysis of the wholesale markets for call origination
and termination on the public telephone networks
provided at a fixed location**

(Markets 2 and 3)

14 December 2012

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Summary and Conclusions

This document contains the Post and Telecom Administration (PTA) analysis of the wholesale markets for services on the public telephone networks provided at a fixed location, which are Markets 2 and 3 in the ESA Recommendation on the relevant markets from 5 November, 2008.

A prior analysis of wholesale markets for fixed line telephone services, along with a decision on the designation of undertakings with significant market power and on the imposition of obligations, was published at the end of 2008. In that analysis, three wholesale markets were examined, i.e. the market for call origination, the market for termination and the market for transit service for telephone calls. These were markets 8-10 according to the ESA Recommendation on the relevant markets from 2004. The market for call transit, see previous Market 10, is no longer specified in the ESA Recommendation so it will be examined in a specific analysis whether conditions still prevail for the imposition of obligations on that market. The markets dealt with in this document are the wholesale markets for call origination on individual public telephone networks provided at a fixed location (Market 2) and the wholesale market for call termination on individual public telephone networks provided at a fixed location (Market 3).

The conclusion of the PTA in its prior market analysis on 4 December 2008 was to designate Siminn as having significant market power on these two markets (then Markets 8 and 9). The PTA imposed the following obligations on Siminn on the relevant markets:

- Obligation for access
- Obligation for non-discrimination
- Obligation for transparency (including the publication of a reference offer)
- Obligation for accounting separation
- Obligation on price control and cost accounting

The PTA also designated Fjarskipti ehf. (Vodafone), as having significant market power on the market for call termination and imposed on that company the following obligations:

- Obligation for access
- Obligation for non-discrimination
- Obligation for transparency
- Obligation for price control

The conclusion in the PTA market analysis on Markets 2 and 3 for 2012 is the following:

On Market 2 (origination), Siminn still has by far the largest share. The Siminn share has dropped since the analysis of the market was made in 2008 from 69% in 2008 to about 60% in 2011, by total volume of traffic. The Vodafone share at wholesale level was about 38% in 2011. Three new companies, Símafélagið, Hringdu and Nova have entered the market but their combined share is less than 2%. It is the PTA's conclusion that Siminn, still has significant market power on this market and that this will not change during the next 2 to 3 years.

The PTA intends to maintain the obligations on Siminn on Market 2 as follows:

- Obligation for access
- Obligation for non-discrimination
- Obligation for transparency (including the publication of a reference offer)
- Obligation for accounting separation
- Obligation for price control which will be implemented through benchmarking

The obligation for cost accounting will however be withdrawn.

The Siminn origination charge will be ISK 0.63 per minute and ISK 0.62 connection charge until a decision is made to the contrary in the light of benchmarking, which will be implemented annually.

On Market 3 (termination) there are still insurmountable entry barriers as no company can offer termination except in its own network. All companies therefore have 100% market share in their own networks. The companies, Nova and Hringdu have joined the group of companies operating on this market. The PTS intends to designate all undertakings on this market as undertakings with significant market power and these companies are as follows: Siminn, Vodafone, Símafélagið, Nova and Hringdu.

The PTA intends to maintain and impose obligations on this market as follows:

- Obligation for access (all companies)
- Obligation for non-discrimination (all companies)
- Obligation for transparency (all companies, but the obligation to publish a reference offer will only be imposed on Siminn)
- Obligation for accounting separation (Siminn and Vodafone)
- Obligation for price control which will be implemented through benchmarking (all companies)

The obligation on Siminn for cost accounting will be withdrawn.

According to ESA Recommendation on termination charges from 13 April, 2011, all termination charges on market 3 shall be symmetrical after 31 December, 2012. The PTA will prescribe that maximum termination charges for all companies on the market will be symmetrical as from 1 March, 2013, as the PTA considers it appropriate to give the companies at least two months from the publication of PTAs decision to adapt their retail prices to the decision. Termination charges for all the companies will then be ISK 0.63 per minute and ISK 0.62 connection charge until a decision is made to the contrary in the light of benchmarking, which will be implemented annually.

1.0 Introduction

1.1 General

1. This document contains the analysis of the Post and Telecom Administration (PTA) of the wholesale market for call origination in fixed line networks (Market 2) and for call termination in individual fixed line networks (Market 3). The PTA published that analysis of this market, along with its decision on obligations on undertakings with significant market power on 4 December 2004 (Markets 8 and 9 in the ESA Recommendation then in force on the relevant markets). It is assumed that market analyses will be repeated at regular intervals in order to monitor whether circumstances have changed on markets. The PTA considers it now appropriate to review the previous analysis.

2. This document is based on a draft that was submitted for consultation with a letter dated 26 June, 2012, where the Competition Authority, electronic communications companies and other stakeholders were offered to make observations on the market analysis. The Competition Authority, Fjarskipti ehf. (Vodafone), Nova and Síminn hf. submitted observations. The observations and the PTA position on the observations are covered in a special document (Appendix B). The market analysis was updated in accordance with the comments that were taken into account. On November 6, 2012, the draft was sent to the EFTA surveillance authority (ESA) for consultation, according to paragraph 1 of Article 7 of act no. 69/2003 on the Post- and Telecom Authority. On December 6, 2012, the PTA received a letter from ESA regarding the draft decision. ESA made no comments to the draft decision. Therefore, a decision based on the updated draft will now be published to the electronic communications companies.

1.2 Electronic communications legislation

3. The Electronic Communications Act no. 81/2003, implements the European Union Directives on electronic communications¹ and the directive on personal data protection in electronic communications.² EU electronic communications legislation is intended to create a homogenous working environment for electronic communications undertakings in Europe, to limit barriers and create conditions for sustainable competition for the benefit of consumers.

4. The Electronic Communications Act obliges the PTA to define certain electronic communications markets, both in terms of service and product types and in terms of geographical demarcation, in accordance with the fundamental principles of competition law

¹ Directive of the European Parliament and Council no. 2002/19/EC from 7 March, 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access and Interconnection Directive)

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

Directive of the European Parliament and 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).

² 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).

and the obligations pursuant to the European Economic Area (EEA) Agreement. Furthermore, the PTA is required to analyse the defined markets and determine whether they are characterised by effective competition. If the PTA comes to the conclusion that there is effective competition in the relevant market – that is that no operator has significant market power – it is prohibited from imposing obligations on the operators in that market. If the Administration has previously imposed obligations on undertakings in the relevant market, these shall be withdrawn and no new obligations imposed. Should on the other hand, the PTA come to the conclusion that there is not active competition on the relevant market because one or more companies have significant market power, then PTA is obliged to designate them as having significant market power and to impose on them the appropriate obligations. According to Article 7 of the Act on the Post and Telecom Administration, the PTA is obliged to consult with ESA and with other NRA's in the EEA area on the definition of markets, market analysis and on decisions on obligations.

5. The European Commission has published Guidelines and Recommendation concerning market analyses. First, there are Guidelines for market analysis and the assessment of SMP³, and second, there is a Recommendation concerning the relevant markets.⁴ The EFTA Surveillance Authority (ESA) has issued comparable Guidelines⁵ (hereinafter referred to as “Guidelines”) and a Recommendation⁶ (Hereafter called "the Recommendations") and the PTA makes reference both to the ESA and EU guidelines and recommendations when analysing markets. In addition, the Administration will consider the report by the European Regulatory Group of National Regulatory Authorities (ERG⁷) concerning obligations that may be imposed on electronic communications undertakings with significant market power in order to promote competition⁸, along with other reports from the Institution now called BEREC.

6. In the existing recommendations on the relevant market, seven electronic communications markets have been predefined, that the PTA is obliged to analyse, in

³ 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.

⁴ The current Directives are: Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (notified under document no. C(2007) 5406) (2007/879/EC) and Explanatory Note; Commission Staff Working Document - Explanatory Note Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services (Second edition) {(C(2007) 5406)}

⁵ EFTA Surveillance Authority Guidelines of 14 July 2004 on market analysis and the assessment of significant market power under the regulatory framework for electronic communications networks and services referred to in Annex XI of the Agreement on the European Economic Area.

⁶ The current Directives are: EFTA Surveillance Authority Recommendation of 5 November 2008 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with the Act referred to at point 5cl of Annex XI to the EEA Agreement (Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communication networks and services), as adapted by Protocol I thereto and by the sectoral adaptations contained in Annex XI to that Agreement.

⁷ Abbreviation for “European Regulatory Group of National Regulatory Authorities”. Now the institution is called Body of European Regulators for Electronic Communications (BEREC).

⁸ Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework. Final Version May 2006. ERG (06) 33. The document can be seen here: http://erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

accordance with current electronic communications legislation and with Iceland's obligations pursuant to the EEA agreement. Furthermore the electronic communications legislation prescribes that the PTA define these markets in accordance to circumstances that pertain in Iceland. In this connection it could be the case that the PTA market definition would vary from those prescribed in the recommendations. The PTA is also authorised to investigate all relevant electronic communications markets. In connection with market analysis, regardless of whether or not they are listed in the recommendation

7. The Ministry of Interiors has issued a Regulation on market analysis in the field of electronic communications, no. 741/2009, with the authority of Paragraph 3, Articles 18 and 75 of the Electronic Communications Act. The Regulation covers the process and the main criteria to be applied when defining electronic communications markets, analysing relevant markets, making decisions on designation of an undertaking or undertakings as having significant market power and making decisions on obligations according to the Electronic Communications Act no. 81/2003. The Regulation is based on the above specified EU instruments, recommendations and Guidelines.

1.3 The PTA's execution of market analysis

8. As is stated in the PTA information brochure on market analysis⁹ the implementation of market analysis can be split into three phases:

- Define the relevant service markets and geographical markets.
- Analyse each of the defined markets, determine whether there is active competition on these markets and make a decision on whether one can find one or more undertakings with significant market power in a market.
- Make a decision on whether obligations shall be imposed, amended or withdrawn on undertakings with significant market power.

9. Work on this analysis commenced at the beginning of 2012. Last 7 February questionnaires were sent to parties to the market. Answers to the questionnaires are used in this analysis, but they have been processed in such a manner that the answers cannot be traced to individual parties. The Administration has collected information, inter alia regular statistical information, and has had informal communications with parties to the market. Statistics, inter alia on the fixed line telephone network, are collected from all parties to the market at six monthly intervals. In addition to this, the PTA collects and registers information on all changes to tariffs as they take place.

10. The draft of the market analysis was presented to the Competition Authority and to stakeholders by letter dated 26 June, 2012 and they were offered to make comments. The PTA has processed the comments received and reports them in a separate document (Appendix B). The market analysis was updated in accordance with the comments that were taken into account. The market analysis and draft decisions with respect to obligations on the relevant markets are now sent to the EFTA Surveillance Authority (ESA) for consultation, pursuant to Paragraph 1 Article 7 of Act number 69/2003, on the Post and Telecom Administration, and Article 7 of the Framework Directive. Should ESA make no observations on the market

⁹ The PTA information brochure on market analysis last updated in August 2009.
[http://www.pfs.is/upload/files/Kynningarrit_um_markaðsgreiningu_ágúst_2009\(1\).pdf](http://www.pfs.is/upload/files/Kynningarrit_um_markaðsgreiningu_ágúst_2009(1).pdf).

analysis and on the draft PTA decision then the decision will be notified to the companies in question.

1.4 On market analysis

1.4.1 General

11. Pursuant to Article 16 of the Electronic Communications Act no. 81/2003 as amended, the PTA shall define service or product and geographical markets in accordance with the main principles of competition law and with obligations pursuant to the EEA Agreement. As has been stated it is necessary for the PTA to evaluate whether markets, as defined in the recommendations, harmonise with Icelandic circumstances. Both the service and geographical market must be defined before it is possible to assess whether market conditions are such that it is susceptible to the imposition of ex-ante obligations.

1.4.2 Delineation of product and service markets

12. In Article 4 of the Competition Act no. 44/2005 a market is defined as a sales area for a product and substitute product and/or a 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 be substitutes for one another only to a limited extent are not considered to belong to the same market.

13. Substitutability is assessed from two points of view. First, how readily customers believe that one product can be a substitute for another (demand-side substitutability). 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 (supply-side substitutability).¹⁰ Demand-side substitutability is considered the foundation of the market definition, while supply-side substitutability is less meaningful and is often related instead to an assessment of potential competition.

1.4.3 Demarcation of the geographical market

14. When a service market has been defined, the geographical market must be demarcated. The main rule is that it is based on the scope of the electronic communications network and the legislative jurisdiction of the regulatory framework that applies to it. Geographical demarcation is also based on an assessment of substitutability of the product or service in question, on the supply side and on the demand side. The geographic market is the area where products or services are offered on sufficiently homogeneous competitive terms. 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, extending to more than one country. If a market is

¹⁰ See further Paragraph 39 in the Guidelines and the Explanatory Memorandum the EU Recommendation, Chapter 3.1.

considered to extend to more than one country, NRA's collaborate on the market definition together with the European Commission and ESA, if appropriate.

15. Two factors are important in defining geographical markets: price and network coverage. If a telecommunications network is distributed over the whole country, then this is an indication that the geographical scope should be the whole country. 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 supply- and demand-side substitutability do not exist and that the regions in question are distinct geographical markets.¹¹

1.4.4 Conditions for being able to define other markets

16. The PTA can define other markets than those specified in the ESA Recommendation, e.g., because of special circumstances in this country. In such cases there shall be consultation with ESA. When defining other markets, the following conditions need to be fulfilled to enable the imposition of obligations:

- The market shows high and non-transitory barriers to entry.
- Market structures do not tend towards effective competition in a relevant time horizon.
- Application of competition law alone does not adequately abolish obstacles and strengthen competition.

The above conditions, in the opinion of the EU Commission and of the ESA, exist in the EEA on the service markets here being examined.

¹¹ Definition of the geographical dimensional of markets is discussed in Chapter 2.2.2 of the ESA Guidelines and also in the COMMISSION NOTICE on the definition of the relevant market for the purposes of Community competition law. (OJ C372 9/12/1997) and ERG Common Position on Geographic Aspects of Market Analysis (definition and remedies) - October 2008 ERG (08) 20 final CP Geog Aspects 081016.

2.0 Definition of the relevant markets

2.1 Definition of Market 2 (call origination) in the recommendation

17. In the Recommendation from ESA from 2008, and from the EU in 2007, and in Explanatory Memorandum to the latter, the markets for origination and termination of telephone calls are defined in a very analogous manner to that of the older Recommendations on which the analysis from the PTA in 2008 was based.

18. The discussion on wholesale markets for origination of telephone calls in the Explanatory Memorandum to the EU recommendation is based on the definition of retail markets for access and for telephone calls in fixed public networks. It is possible to differentiate between access to fixed public telephone networks and telephone calls. A company can decide to offer this service bundled or can offer just the telephone call on its own which then goes through an access connection operated by another company.

19. It is stated that the initiation of telephone calls in wholesale can be in the form of minutes or in transmission capacity. The market is considered to contain both originations for ordinary telephone calls and for data transmission through dial up connections. The origination of telephone calls at wholesale level is sometimes sold along with other service items such as transit.

20. In the Annex to the Recommendation the market is defined in the following manner: Call origination on the public telephone network provided at a fixed location. This refers to that part of telephone call that is neither considered to be transit nor call termination in a public telephone network at a fixed location in a national context.

2.2 Definition of Market 3 (call termination) in the Recommendations

21. The Recommendation bases its definition on the wholesale market for termination of calls in a fixed network on the assumption that such a service is a necessary part of a telephone call in retail service. It is pointed out in the Explanatory Memorandum that it is usually possible to choose between connections at various levels of electronic communication networks to terminate calls. In some instances connections are set up in such a manner that both transit and termination are required for the call to reach its destination. It is however only the call termination charge part that belongs to the relevant market, as there are often opportunities to purchase transit and termination separately.

22. In the Explanatory Memorandum to the EU Recommendation the conclusion is reached that supply substitutability does not exist. Supply substitutability would be possible if two or more types of access connections were available for users, but this is seldom the case. There is no existing technology that allows others than those who control the access connection to offer termination to the user in question. For this reason, the conclusion is reached that the network of each service provider in termination of telephone calls in fixed networks is a distinct market.

23. In the Explanatory Memorandum it is stated that demand substitutability does not exist at wholesale level. There could conceivably be some demand substitutability at retail level such as mobile phone "call back" telephone calls, IP calls or e-mail. The force of such

possible substitutability is not considered sufficient to justify a wider market definition.

24. The competitive position is however totally different when it comes to termination of telephone calls in dial-up connections with Internet service providers. As Internet service providers can choose the service provider who handles termination and can switch between service providers at will the conclusion is reached in the Explanatory Memorandum to the Recommendation that in termination of telephone calls to Internet service providers, competition generally exists and that there is no reason to intervene in this part of the market. Termination of these telephone calls is thus not part of Market 3.

25. In the Annex to the Recommendation the market is defined in the following manner: Call termination on the public telephone network provided at a fixed location. This refers to that part of a telephone call that is neither considered to be origination or transit of a call in an individual public telephone network at a fixed location in a national context.

2.3 The PTA definition of the relevant service markets

2.3.1 General

26. In this section, the PTA will define the market for call origination and termination in a fixed location public phone network in accordance with the ESA Recommendation. The PTA agrees with the definition in the Recommendation and of the delineation with respect to other services. There are however some issues the PTA considers necessary to examine more closely and it is also necessary to examine the markets from an Icelandic perspective.

27. In its analysis of markets 8 - 10 which was published in its final form on 4 December 2008, the PTA defined markets for origination (Market 8) and termination (Market 9) of telephone calls in fixed location public networks. This definition is based on the definition in the ESA Recommendation that was then in force, taking into consideration the Explanatory Memorandum to the EU Commission Recommendation. The PTA considers that the former definition of the market still applies. There has been no fundamental change in the definitions of these markets in the ESA Recommendation from 2008 or in the Explanatory Memorandum to the existing Recommendation from the EU Commission. Discussion on the definition and delineation of the market in the following text is thus mostly analogous to that in the previous analysis.

2.3.2 Internal use

28. The PTA assumes in the market analysis that both voice telephony that goes between networks and voice telephony that is totally within the same network belong to the two markets being examined here. Underlying constituent parts in most telephony service in retail are origination and termination of telephone calls, and in some instances transit of telephone calls. Electronic communication undertakings need this service to be able to provide retail voice telephony services. The use of these service items creates demand on the wholesale market, both in cases where such transactions are made within the same company or between companies.

29. It is appropriate to note that in the Explanatory Memorandum to the EU Recommendation from 2007, internal traffic is not exempted in the definition of Markets 2 and 3, as seems to have been done in the definition of termination of calls in mobile phone

networks.¹² The Norwegian NRA (NPT) published an analysis of these markets in August 2011, where internal traffic was considered to belong to the markets and ESA made no observations on the definition.

2.3.3 Delineation between markets for origination, termination and transit of calls

30. In the Recommendation it is assumed that origination and termination of calls is linked to interconnection within the same interconnection area. If a call starts and ends within the same interconnection area then it comprises origination (Market 2) and termination (Market 3), and not transit (Market 10 according to the old Recommendation) In Siminn's voice telephony network there is only one interconnection area, which covers the whole country. The same can be said about Vodafone's voice telephony network. Because each network has only one interconnection area there is no transit if a telephone call takes place totally within the same network. The telephone call then solely comprises origination and termination. The same can be said about calls from an exchange in one network over to an exchange in another network and that end in that network. In such an instance the call comprises origination in the former network and termination in the latter. As neither network is divided into interconnection areas then there is no charge collected for transit of the call. If a call on the other hand starts in one network, goes through another network, which is a voice telephony network and ends in a third network, then this is a case of transit in the network in the middle. Given the circumstances and interconnection conditions in this country, transit of calls through voice telephony networks only take place where a call goes from one network to voice telephony network and over to a third network.

2.3.4 Telephone calls with dial up connection for Internet access

31. The PTA agrees with what is said in the Recommendation with respect to calls with dial up connections with Internet service providers, i.e. that such call are part of Market 2, for the origination of calls and not Market 3 for termination of calls. The importance of dial-up connections decreases continuously and this distinction is less significant than before as the number of such calls today is only a fraction of what it was when the last analysis was made.

2.3.5 Differentiation between companies and individuals

32. The Recommendation no longer distinguishes between corporate and individual markets for retail voice telephony services. It makes no difference to origination and termination of traditional calls sold in wholesale whether they are intended for retail sale to companies or individuals. The service and pricing are the same. With a view to the above the PTA has come to the conclusion that all calls for households and companies are part of the relevant markets.

2.3.6 Various services are necessary in connection with interconnection.

33. According to the Siminn reference offer there are various services other than origination and termination of calls offered in connection with the interconnection of voice

See the Explanatory Memorandum to the EU Recommendation from 2007, page 44.

telephony networks.¹³ These service items are inter alia, connection into a connection area, connection to current from the interconnection point, connection of signal routes, signal traffic and various services for carrier selection and pre-selection. The services are more or less necessary in order to be able to interconnect with the Siminn network. Charges for this service are only to a small extent related to use. They are mainly fixed charges, i.e. start-up fee and/or monthly fee.

34. There is little discussion on services related to interconnection of fixed location public networks in the Recommendation. Many of these services cannot be attributed to one particular wholesale market for fixed location public telephone services rather than another. For this reason, it seems most reasonable to divide the income from the services proportionately between Markets 2 and 3 when market share by income is measured. Income from these items is however not likely to have a significant impact on market share so the PTA considers there to be no reason to include them when market share is measured. Nevertheless, the PTA considers that the services are part of the wholesale market for fixed location public telephone services. This means that obligations could be imposed in connection with the service items.

2.3.7 Calls to and from other kinds of networks

35. Calls that have origination or termination in another kind of network than a domestic fixed location public network can to some extent be included in Markets 2 and 3. These could, for example, be telephone calls from or to mobile phone networks or international calls. Where a call originates in a domestic fixed line network then the origination part belongs to Market 2. If it terminates in a domestic fixed line network then the termination part belongs to Market 3. The part of the call that goes through a domestic fixed line network belongs to the relevant wholesale market for fixed line telephony services, as the service of a fixed line network in this connection is not dissimilar to what takes place with calls that are totally within fixed line networks and the pricing of the service is the same.

2.3.8 Internet phone (VoIP)

2.3.8.1 General

36. Internet phone (VoIP)¹⁴ is a service that has been on offer for quite some time. Use of such service is increasing, but it has not led to very significant changes in the use of fixed line services, as was perhaps expected when the service was first introduced. The PTA considers it necessary to assess whether VoIP service belongs to Markets 2-3.

37. VoIP means that telephone calls are transmitted over the Internet in IP format. VoIP is often called Internet telephone IP phone, computer phone or VoIP phone. Here the concept "Internet phone" will be used. Internet phone service means the transmission of voice using the Internet Protocol - IP. In traditional telephone systems a telephone call is changed into an electronic message, which travels along predetermined channel divided routes. The telephone is transmitted from A to B in a specific format which is decided inter alia, by the telephone number and the place of origination or address of the user. The Internet telephone on the other hand changes the voice into a data transfer package which is sent through a network divided

¹³ See appendices 3a and b to the Siminn reference offer from August 2011; <http://heildsala.siminn.is/talsimi/>

¹⁴ "Voice over IP" (VoIP) means that calls are partly or totally transmitted through an IP network.

into packages and not channels, and the packages are converted into voice in a computer or in a telephone designed for this purpose controlled by the party who has been called. Signal transmitters that organise telephone calls in a network divided into channels, decide what route is taken between two users of fixed line telephone service. Telephone numbers are the identifiers for each subscriber and they are fixed to a specific location or address. In Internet phone service the point of origination and the destination are not defined as physical addresses but as memory addresses. With this arrangement the user can make a call almost anywhere in the world where an Internet connection is available. The transmission capacity of a network divided into packages is used jointly with other services that travel through the network, whereas in a channel divided network, a connected channel is used exclusively for the duration of the call.

38. The PTA considers it justifiable to divide Internet phone services into two main categories.

- Internet phone that uses software, and not telephone numbers
- Internet phone users telephone numbers

2.3.8.2 Internet phone that uses software, and not telephone numbers

39. In general these are what were called peer-to-peer calls, which are solutions where telephone calls are normally processed through appropriate software in private computers with the help of headphones/speakers and a microphone so that the user can have a conversation with other users through the Internet that have analogous software and equipment. This service is normally included in the Internet connection but it is not possible to use it to call or receive dialled calls from PSTN/ISDN networks.

40. It is only possible to connect to a limited group of users in this manner so it is unlikely that price increases in fixed line telephones will lead to a large group of users converting to Internet phone calls in this category. There is reason to believe that Internet phone calls of this kind are mainly used as an addition to traditional fixed line usage and not instead of it. The proportion of substitutability could certainly increase in the case of international calls. One could, for example, consider that many users have very little need to be able to access all telephone numbers abroad through their fixed line telephone or to be themselves available. Then the solution of being able to communicate with a closed group of users (without using telephone numbers) could be satisfactory. It is however unlikely that this use of Internet phone would lead to many individual customers cancelling their subscriptions to traditional fixed line telephones. For this reason, it is not possible to consider Internet telephones of this kind as a real alternative to the traditional fixed line telephone.

41. Variations of this service offer telephone calls from computers to telephone numbers for a fee. This possibility increases the usability of the service and provides the option of being able to call almost any end-user. The substitutability of this service is however limited, with respect to traditional fixed line telephone services in that it is not possible to call the Internet telephone user from a traditional fixed line telephone. The PTA therefore considers that this kind of service is not part of Markets 2 and 3.

2.3.8.3 Internet phone that uses telephone numbers

42. Internet phones in this category normally have an interface with the PSTN/ISDN system and they use telephone numbers in accordance with number structure for fixed line telephone services in order to enable communication between users. Service providers of this kind of Internet phone provide users either with a broadband connection and Internet phone or they offer simply an Internet phone on the basis of broadband access from another service provider.

43. The functionality of these Internet telephones is to a large extent analogous to normal PSTN/ISDN telephone services. Most users that use this kind of Internet phone use it instead of a traditional fixed line phone. This indicates that one may regard this service as part of the same relevant market.

44. The PTA published an announcement regarding Internet phone services on 3 February 2006. The announcement stated that given the recommendations in Electronic Communications Committee no. ECC/REC/(05)03, from 10 May, 2005, and taking into account the observations received from stakeholders, it was the opinion of the PTA that Internet telephone services could be substitute services for fixed line telephony services. In other words, the PTA considered that one should not distinguish on the basis of the technology used when providing voice telephony services. So the provisions of the Electronic Communications Act number 81/2003 on voice telephony services apply to Internet phones as appropriate, including the provisions on access to emergency services through the number 112, calling line identification, phone tapping and operational security. This announcement enabled the use of traditional fixed line phone numbers for Internet phones, including number portability if this service is fixed to a specific location for the end user. If the service is however not fixed to a specific location (i.e. nomadic service) then a dedicated number series shall be used, 49x xxxx and number portability between such services and fixed location services is unauthorised.

2.3.8.4 Supply-side substitutability

45. One also has to assess whether Internet phones provide substitutability on the supply-side in connection with telephone services through PSTN/ISDN networks. Fixed pre-selection makes it possible for companies to offer PSTN/ISDN services without investing heavily in electronic communications infrastructure. The company in question needs first and foremost to have a management support system to handle customers, and to implement direct or indirect interconnection with other companies. The same applies to companies that provide Internet phone services. In general it is not a major problem. Nor is it particularly expensive for companies that provide Internet telephone services to also provide telephone services through PSTN/ISDN networks.

46. This means that a small, yet nevertheless significant and permanent price increase could encourage those companies that either offer solely Internet phone services or solely PSTN/ISDN telephone services to offer both of these options. The PTA therefore considers that there is substitutability between Internet telephone calls and telephone services through PSTN/ISDN networks, also on the supply-side.

2.3.8.5 Interconnection of Internet phones

47. Electronic communications companies that offer Internet phone services have made interconnection agreements with other companies that offer comprehensive telephone services. Agreements on interconnection of Internet phone services do not differ greatly from agreements on PSTN telephone services. A network call can be comprised of origination/transit and termination, like other phone calls. The PTA considers that one must regard wholesale services in Internet phones as part of voice telephony services in fixed networks in the same way that retail services in Internet telephones are considered to belong to the same service market as PSTN voice telephony services.

2.3.8.6 Conclusion with respect to Internet telephones

48. With reference to the discussion here above it is the conclusion of the PTA that origination and termination of calls in Internet phones, which use telephone numbers, are part of Markets 2 and 3.

2.4 Conclusion of the PTA on the definition of service markets for origination and termination of calls in fixed networks

49. The PTA has come to the conclusion that the definitions of Markets 2 and 3 to be found in the Recommendation apply in this country. The PTA will, in the following market analysis use the following definitions of Markets 2 and 3:

50. **Market 2:** Call origination on the public telephone network provided at a fixed location. This refers to neither that part of a call which is categorised as transit nor termination of a call. The service considered to be part of this market is the setting up of calls, choice of route in the telephone exchange and connection for the origination stage of the call. At this stage, transit from the end user by local copper loop to the distribution frame and from there to the first telephone exchange on the route before reaching the next stage is included, the next stage being either transit or termination of the call.

51. **Market 3:** Call termination on the public telephone network provided at a fixed location. This refers to neither that part of a call which is categorised as origination nor transit of a call. The service considered to be part of this market is the termination of a call and the choice of route at the termination end of a call. Termination constitutes transit of a call from the preceding stage in the route of the call (origination or transit) through a telephone exchange and by way of local copper loop to the party being called.

52. Calls to Internet service providers (dial-up connections) are considered to be part of the market for call origination, but do not belong to the market for termination of calls.

53. Calls belong equally to both on the markets regardless of whether they are between networks or totally within the same network.

54. The PTA considers there to be no reason to distinguish between calls of individuals on the one hand and companies on the other. Corresponding underlying wholesale aspects of individuals' calls and those of companies must belong to the same market.

55. The PTA considers that various service items offered in wholesale in connection with origination and termination of calls that are necessary to enable interconnection between networks are part of Markets 2 and 3.

56. Calls that have origination or termination in another kind of network can to some extent be included in Markets 2 and 3 to the extent that they go through a domestic fixed location public network.

3.0 General points about the status on the fixed line telephone market in Iceland

3.1 Retail market

57. After the state monopoly on operating electronic communications was lifted in 1998 the first indications of competition appeared on the market, which was based on pre-selection, where the user selected a prefix in front of a normal telephone number, and in this manner was connected to the service provider he chose to buy the call from. Initially the new companies concentrated on international calls as their pricing gave the most opportunities for competition. On the corporate market there was also competition in the form of direct connections with larger companies. With the Electronic Communications Act number 107/1999, the provision was fixed in law where companies with significant market power in fixed line network voice telephony were obliged to publish a reference offer for interconnection, to practise non-discrimination and to offer interconnection at a cost-analysed price.

58. In December 1999 the issue of number portability in fixed line networks was addressed, and that was an important step in enabling competition as it was then easier for customers to change service provider if they could keep their existing number. In April 2000 fixed carrier pre-selection was introduced, which meant that calls were all directed to a specific service provider without having to dial prefix with each call. Fixed pre-selection facilitated the entry of new companies into the fixed line phone market. With this arrangement electronic communications companies could offer either comprehensive fixed line telephone services or just specific categories of calls, for example, international calls, without having to make very major investments and the user was freed from the inconvenience of needing to select a prefix for each call.

59. When the first the PTA analysis of fixed line public telephone markets was made in 2008 there were three companies that sold public domestic fixed line telephone services at retail level, Siminn, Vodafone and Tal. The number of companies only sold prepaid telephone cards for international calls and Heimsfrelsi (IP-net ehf.) had the largest market share in this group.

60. In today's market, two additional companies have entered the market at retail level, that is Hringdu and Símafélagið, in addition to Nova, which offers fixed line telephone services only on the corporate market. Prepaid telephone cards for international calls are still being offered but the parties selling them are not the same ones as before. Heimsfrelsi has disappeared from the market. Atlássími merged with Tal and a new company called GlobalCall has entered the market.

61. Siminn owns and operates telephone exchanges across the whole country. The number of telephone exchanges owned by Vodafone has increased considerably since 2008. Vodafone now offers dozens of exchanges across the country. The companies Hringdu, Nova and Símafélagið operate telephone exchanges in the capital city area. Tal and GlobalCall do not operate telephone exchanges and only operate at retail level on the fixed line telephone market.

62. Siminn has been the country's largest electronic communications undertaking from the

outset. Siminn has been dominant on the fixed line telephone market, and has maintained a high market share after the lifting of the monopoly. Siminn, which was previously called Landssími Íslands and was state-owned, had a monopoly on the sale of fixed line telephone services from the founding of the company in 1906 and until 1998. The state sold its shares in the company in 2005 to Skipti hf. which was owned by the investment company Exista and other parties. After the privatisation of Siminn its operational form was changed in such a way that network operations and services were separated. A company called Míla was founded, which inter alia, manages operations of all fixed backbone and access networks. Among other things Siminn operates telephone exchanges and sells telephone services to homes and companies. For this purpose it leases backbone lines and local copper loops from Míla. The parent company Skipti hf. handles ownership of Míla, Siminn and other subsidiaries in telecommunications, information technology and media operations. Subsequent to the economic crash in 2008 ownership of Exista, which owns Skipti and other companies, changed and the company is now totally owned by Icelandic and foreign financial institutions and pension funds. The company's name was changed and is now called Klakki. Vodafone, which is the second-largest electronic communications company on the market, is now also mostly owned by investment and pension funds.

63. VoIP services have been on offer to companies since 2005. In 2006, the PTA authorised number portability from traditional fixed line telephone services to telephone services with Internet phones, if the service is registered at a specific location and not marketed as nomadic service. Subsequent to this announcement from the PTA, the companies Atlassími and IP-fjaraskipti began to offer VoIP services for households. These companies later merged and discontinued the operation of their own networks. Today VoIP is generally not on offer for households except in the form of nomadic services¹⁵ or telephone services through fibre-optic.

3.2 Changes in demand for fixed line telephone services.

64. Until the year 1997 there was steady growth in demand for user lines in fixed line telephone systems (PSTN). In 1996 ISDN connections were first offered and they gave the possibility of having two connections active at the same time, for example, Internet and telephone. Demand for ISDN grew quickly in the first years after its introduction and demand for PSTN decreased accordingly. The total number of voice channels reached a maximum in 2001 when the connections totalled something over 196,000. Since then the number of connections has been on the decrease and they were just under 174,000 in 2011. At the same time the number of high speed connections has grown and this can explain to some extent the decrease in the number of voice channels, as some of them had been used for data transmission before high speed connections became common. Development in number of connections is shown in table 3.1

Nomadic services are those that one can access ubiquitously through an Internet connection. A special number series is used for the service 49x xxxx and number portability is not authorised between this service and traditional telephone services at a fixed network connection location.

Table 3.1 Installed lines in public telephone network and high speed connections 2007-2011

At year end	Installed lines				High-speed Internet connections (xDSL)
	Total ¹⁶	User lines in fixed line networks (PSTN)	ISDN Base Rate Interference (2B+D)	ISDN Primary Rate Interference (30B+D) this	
2007	186,688	134,622	12,113	928	94,630
2008	193,512	140,858	11,267	1,004	98,762
2009	186,779	135,969	10,945	964	97,862
2010	181,119	132,069	9,405	1,008	95,448
2011	173,997	126,955	8,626	993	92,745

Source: Post and Telecom Administration.

65. The use of VoIP has increased somewhat since the last market analysis was made. Users of VoIP telephones through a fixed network connection point were 5591 at the end of 2008 while at the end of 2011 there were 17,674. The number of users in nomadic services increased at the same time from 1576 to 3277. This amount is about 10% of the total number of users of fixed line telephone services.

66. Changes in the amount of telephone traffic on wholesale markets for origination and termination of calls are proportionate to changes in traffic on this retail market for fixed line telephone services. There has been a considerable change in the dialling pattern in the fixed line system, and this development is shown in table 3.2. There it can be seen that there is a considerable reduction in minutes in calls that originate in the fixed line system where they have dropped from over 2 billion in 2001 to about 582 million in 2011. This change results inter alia from changed circumstances on the telephone market. As is stated in table 3.1 here above, ADSL high speed connections have increased greatly, while ISDN or dial-up connections have decreased. Other factors such as Internet phones have also had their impact as it costs much less to call through such systems. One could also mention e-mail and chat channels on the Internet. Finally, one can mention that calls and SMS from mobile phone systems are also influencing factors.

Table 3.2 Calls in general public fixed line network (PSTN/ISDN) 2007-2011

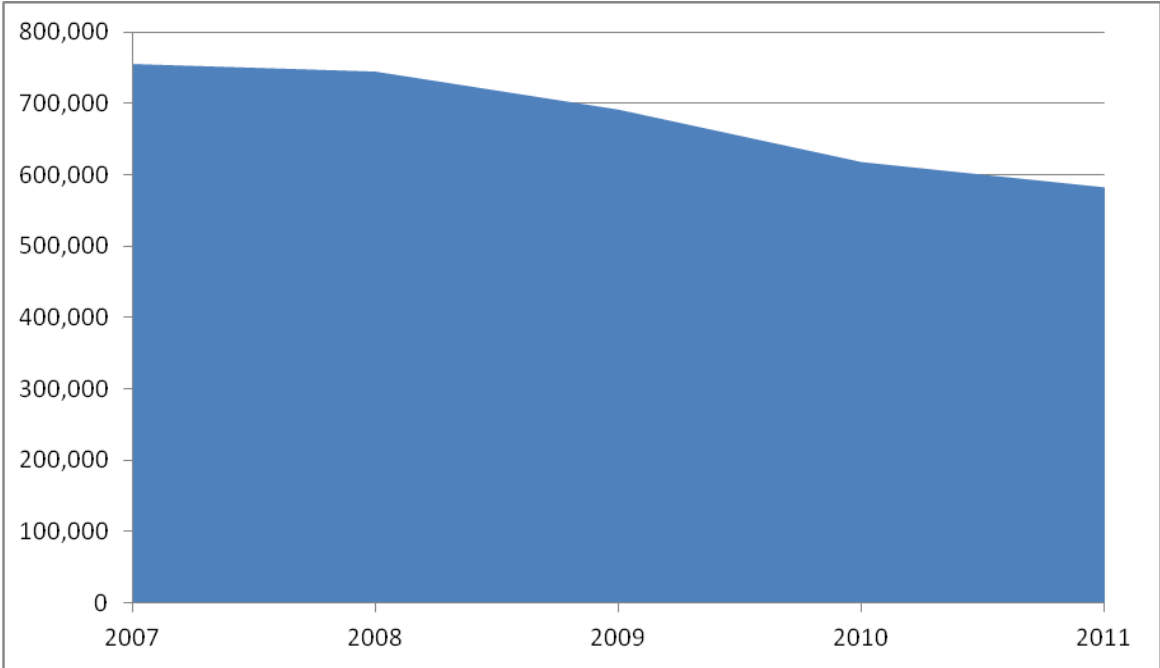
Year	Thousands of minutes			
	Calls to fixed line networks	International calls		Calls to mobile phone networks
		Calls to numbers abroad	Calls from abroad	
2007	519,543	43,339	35,276	143,449
2008	531,594	35,585	...	148,537
2009	509,883	30,889	56,956	131,614
2010	462,848	25,190	55,498	123,453
2011	439,551	22,872	44,863	118,223

Source: Post and Telecom Administration

¹⁶ Sum of possible voice channels in both PSTN and ISDN

67. After high-speed connections entered the market the use of fixed line telephones decreased rapidly as users switched from dial-up connections to ADSL. If one looks at the last five years one can see deceleration in the speed of the reduction. There was a small increase in domestic telephone calls in 2008, but apart from that there has been a steady and level reduction in recent years. In the following graph we can see the development in the amount of fixed line telephone network traffic from 2007-2011.

Figure 3.1 Development in total number of minutes in fixed line telephone services from 2007-2011



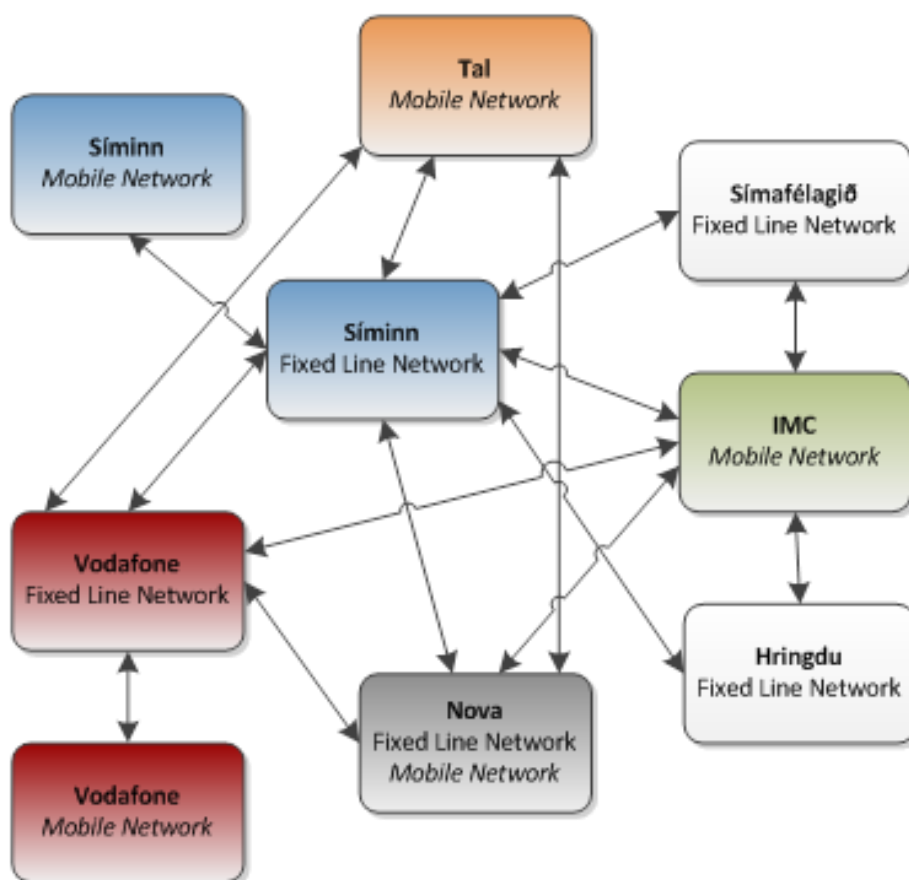
Source: Post and Telecom Administration.

3.3 Interconnection of fixed line telephone networks in Iceland

68. Telephone calls often go through two or more electronic communications networks. Traffic that goes between networks is called interconnection traffic and locations where the traffic passes from one network to another are called interconnection points. Interconnection can take place in various ways, depending on which networks end users are connected to.

69. There has been a very large increase in interconnection of networks since 2008. As one can see in figure 3.2 there are five fixed line networks and five mobile phone exchanges that interconnect here in this country. The majority of these networks have more than one interconnection. It is only the Siminn and Vodafone mobile phone exchanges that have only one interconnection. All companies that have a fixed line network exchange have an interconnection with the Siminn fixed line network. These companies are Vodafone, Símafélagið, Hringdu and Nova. IMC and Tal on the other hand only have interconnections with their mobile phone networks.

Figure 3.2 Interconnection of telephone networks in Iceland



Source: Post and Telecom Administration.

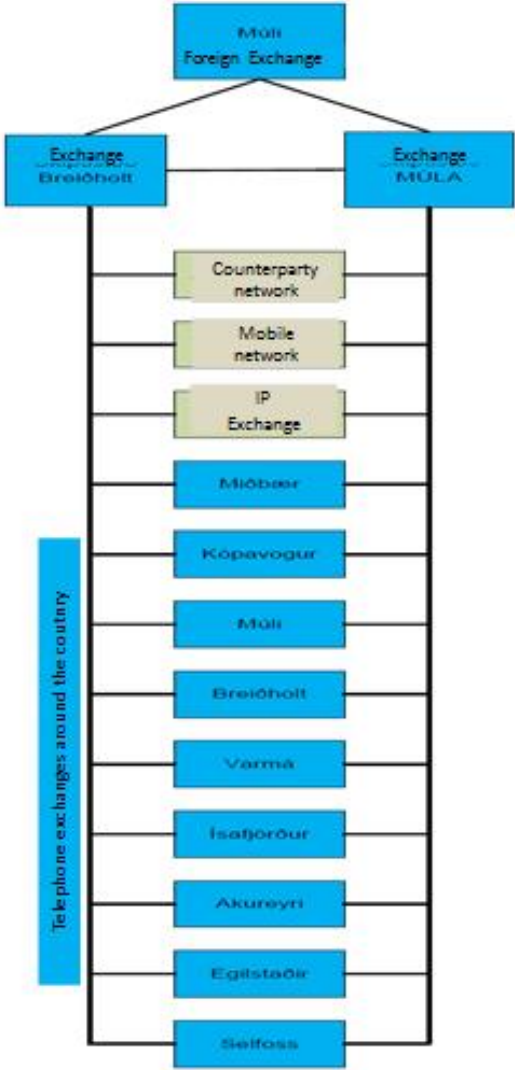
70. As is shown in figure 3.2, the Siminn and Vodafone fixed line networks do not have direct interconnections with other networks than the fixed line networks of the companies themselves. In the PTA decision on obligations in Market 16¹⁷ on termination of telephone calls in mobile phone networks (now Market 7) it was stated that the companies are unauthorised to make it as a condition for interconnection that mobile phone network traffic first goes through the companies' fixed line networks. This was emphasised in the PTA decisions number 18/2010 and 3/2012 on the relevant market. It means that there is transit in all calls to and from mobile phone networks over to networks of other companies. According to the newest edition of the Siminn reference offer for interconnection of fixed line networks (RIO), there is no charge collected for transit over to a mobile phone network if the counterparty has the same pricing structure. Siminn and Vodafone thus do not make special charge for transit over to their mobile phone networks today.

71. Siminn, which is by far the largest company on the fixed line telephone network, operates a traditional PSTN fixed line network. Fixed line networks comprise user lines, telephone exchanges and connections. Customers connect to the telephone exchanges with the user line and the connections connect the exchanges together. Siminn has 230 automatic telephone exchanges. They include two international exchanges (ISC), which handle telephone traffic between Iceland and other countries and to switch exchanges that switch traffic between international exchanges, regional exchanges, mobile phone exchanges, and the

¹⁷ See the decision of the Post and Telecom Administration from 20 July, 2006.

exchanges of competitors. In addition to this, some of the very largest corporate customers are connected directly to the exchanges. Regional exchanges are now nine, five in the capital city area and four in the provinces. There are 219 outlying exchanges connected to them.

Figure 3.3 The Siminn network



Source: Síminn

72. Other companies are connected to the Siminn network in the switching stations at Breiðholt and Múli. All telephone traffic passes through them to and from all the regional exchanges (Miðbær, Múli, Breiðholt, Kópavogur, Varmá, Ísafjörður, Akureyri, Egilsstaðir and Selfoss). This arrangement makes it unnecessary for other undertakings to connect to each regional exchange; however it means that undertakings located outside the greater Reykjavík area must lease a connection to Reykjavík in order to connect to Siminn’s interconnection points.

73. Vodafone grants other electronic communications undertakings interconnection with the company’s network, on request. The interconnection points are at the Miðbær exchange, and the exchange in Hafnarfjörður. Vodafone telephone exchanges have increased significantly in the past years and there are more than 100 POTS and ISDN exchanges located

at various points around the country. Vodafone does not have a copper local loop network.

74. In many places abroad, it is the custom to divide interconnections into three price categories by region, depending on whether the interconnection area is to a specific location (local), to a region of the country (single transit) or to the whole country (double transit). Such division into areas does not however exist in Iceland as there is only one price category for interconnections, which is based on calls between regions (single transit).

75. In the Siminn reference offer for interconnection there is an offer for origination, termination and transit of calls. Origination of calls was bought by companies that use carrier selection or pre-selection to provide users that are connected to the Siminn network with fixed line telephone service. Termination is purchased by companies that carry telephone calls that terminate in the Siminn network. Transit of calls is bought by companies that need to move calls to company networks with which they have no direct interconnection.

3.4 Interconnection fees

76. Ever since the state monopoly on fixed line telephone services was lifted on 1 January 1998, Siminn's interconnection charges had been subject to official price control and it has been obligatory to take costs into account when deciding prices. Siminn's interconnection prices in fixed line networks were decided until 2008 with benchmarking with prices from other countries. Initially, reference was made to a report on benchmarking between the Nordic countries.¹⁸ Subsequent to the market analysis from 2008 Siminn was obliged to cost-analyse its interconnection charges, using historical costs in the first instance.

77. As can be seen in tables 3.3 and 3.4, interconnection charges have increased since December 2008. With the PTA decision number 15/2011 from May 2011 concerning cost analysis of Siminn's wholesale prices for origination, termination and transit of calls in fixed public telephone networks, Siminn's origination and termination prices increased by 46% on the basis of a three-minute call, while the prices had been unchanged since 2000. The PTA decided also to lift the division of the minute charge between daytime tariffs on the one hand and evening, night and weekend tariffs (KNH) on the other hand. This was replaced by the one minute price which was calculated in accordance with weighted average traffic in the Siminn systems. Siminn's cost-analysed origination and termination prices were the sixth lowest in Europe, according to benchmarking made by the PTA during its review of the Siminn cost analysis in May 2011.

Table 3.3 Price for origination and termination of telephone calls in Siminn fixed line networks 2008

Type of service	Price per minute	Connection charge
Origination and termination of calls - day tariff	0.4 for to ISK/min	0.68 ISK/connection
Origination and termination of calls - evening - night - and weekend tariffs	0.26 ISK/min	0.68 ISK/connection

Source: Post and Telecom Administration.

¹⁸ Nordic Interconnection Benchmark Study, DDV Telecommunications & Media Consultants, 12 October 1999. <http://www.pfs.is/upload/files/nordic.pdf>

Table 3.3 Price for origination and termination of telephone calls in Siminn fixed line networks 2012

Type of service	Price per minute	Connection charge
Origination and termination of calls	0.63 ISK/min	0.62 ISK/connection

Source: Post and Telecom Administration.

78. When the last analysis of the market was made in 2008, Vodafone termination charges were approximately 50% higher than those of Siminn. Subsequent to the market analysis, an obligation was imposed on Vodafone to reduce its termination charges in steps down to the same price as the Siminn cost-analysed price. The Vodafone termination charge is now ISK 0.73 per minute with an ISK 0.69 connection charge. According to a decision by the PTA from 4 December, 2008 the Siminn and Vodafone termination charges will be the same from 4 December, 2012.

79. Nova, Hringdu and Símafélagið had not commenced operations in fixed line telephone services when the last analysis was made on this market so they are not subject to any obligations with respect to pricing. The termination prices of Hringdu and Símafélagið are now the same, i.e. ISK 0.71/minute for the day tariff and ISK 0.42/minute for evening, night and weekend tariffs along with an ISK 1.09 connection charge. With Nova the termination rate is ISK 0.60/minute and the connection charge is ISK 0.60/minute.

4.0 Definition of geographical market

80. In its analysis from 2008, the PTA came to the conclusion that the geographical market for origination and termination of telephone calls was the whole country. This was based on the following factors:

81. A geographical market covers a geographical area where stakeholder companies participate in supply and demand of the relevant goods or services where conditions for competition are the same or sufficiently uniform and, where it is possible to demarcate the geographical area from neighbouring area where conditions for competition are significantly different. In assessing demand-side substitutability, it is appropriate to consider customers' taste and geographical purchasing patterns. It is customary to demarcate geographical electronic communications markets with reference to the distribution of the relevant electronic communications networks and to the jurisdiction of the legal framework that applies to the relevant market.¹⁹

82. The structure of the fixed line telephone network and the Siminn reference offer mean that in the case of interconnection the country is one interconnection area and not divided into smaller areas as is the case in many places in Europe. The Siminn fixed line network reaches all inhabited areas in the country. The Míla copper local loops are installed into all homes in the country and are connected to the Siminn telephone exchanges throughout the country. It is possible to offer almost every inhabitant of the country traditional fixed line telephone services through that network and Internet telephone services can be offered in most inhabited areas in the country as over 95% of the population have the possibility of high-speed connection. Electronic communications companies' prices on the fixed line telephone market are the same everywhere in the country, both in wholesale and retail. The same laws and regulations apply to the operation of fixed line telephone networks everywhere in the country and a company's licence to operate such a network applies throughout the country. It is not possible to demarcate areas in the country where conditions for competition are significantly different from that which applies in other areas. The PTA further considers that there is no difference in taste or purchasing pattern of users according to region.

83. There have been no significant changes in the structure of fixed line telephone networks since 2008. The coverage of the Siminn fixed line network is the same as before. The coverage of the Vodafone network has increased somewhat and the company offers both origination and termination of calls at many locations in the country. The increased coverage of the Vodafone network supports the conclusion that the country is one market. The addition of the networks of Símafélagið, Hringdu and Nova in the capital city area are not such that they affect the geographical demarcation of the markets as these networks are small and the companies' share is very low. As there have not been significant changes in status from the previous market analysis, then the PTA conclusion is the same as before, i.e. for wholesale of origination and termination of calls the country is one market.

¹⁹ See Chapter 2.2.2 in the Guidelines.

5.0 Evaluation of market power on markets for call origination on the public telephone network provided at a fixed location (Market 2)

5.1 Market share

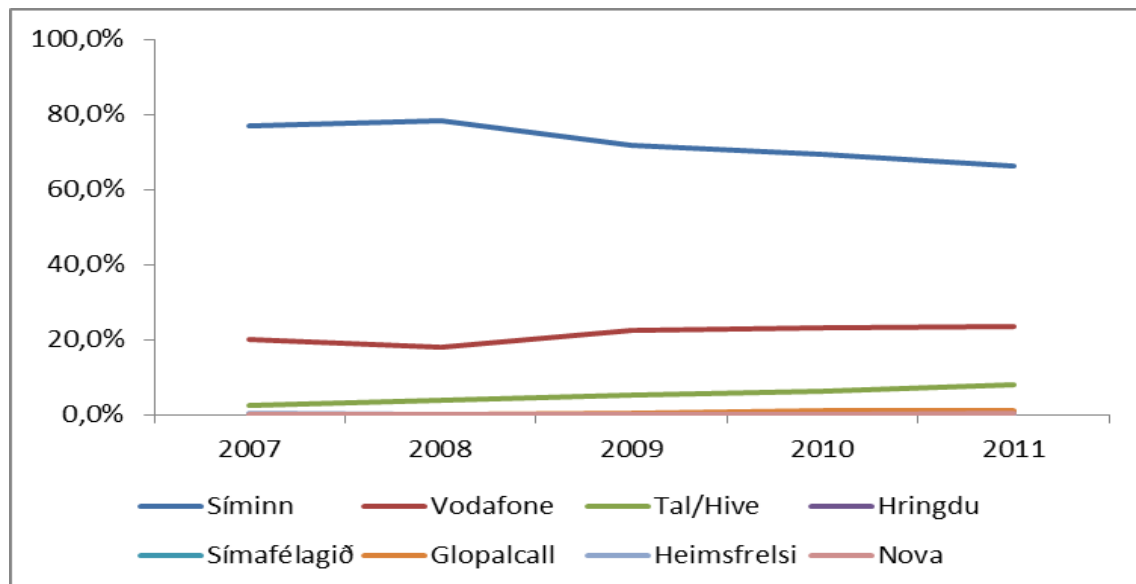
84. A company's market share and its development in recent years are an important aspect of market analysis. Market share normally gives a strong indication of whether significant market power exists or not. For this reason, the first step is to examine market share in this assessment of market power, while at the same time taking into consideration the other factors in the following chapters.

85. Origination of calls in own network is part of the wholesale market for call origination in fixed line telephone networks. As the fee for call origination in a company's own network is often small and non-transparent, income from call origination does not give a clear picture of market share. Market share in retail fixed line telephone network service is thus a better reference in this connection.

86. Siminn competitors based their services to certain extent on call origination/carrier selection and pre-selection which is purchased from Siminn and partly on call origination in their own networks.

87. In the market analysis from 2008, the development of market share for the period 2003 to 2007 was examined and during that period the Siminn market share dropped in total income from fixed line telephone service from [85-90%]²⁰ to [75-80%]²¹. The Siminn market share according to this reference has continued to decrease during the years 2008 - 2011 and now stands at [65-70%]²².

Figure 5.1 Market share % - income from domestic fixed line telephone services²³



Source: Post and Telecom Administration.

²⁰ Margins for confidentiality.

²¹ Margins for confidentiality.

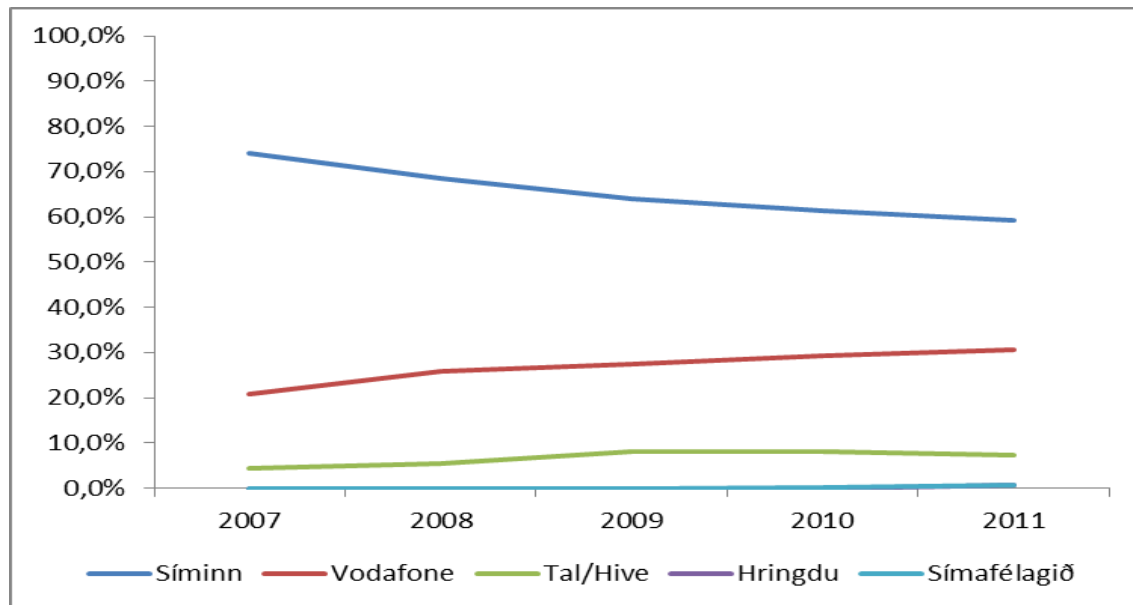
²² Margins for confidentiality.

²³ Margins for confidentiality.

88. The second largest company with respect to total income on the fixed line telephone services market is Vodafone with [20-25%]²⁴ share followed by Tal with [5-10%]²⁵ share. Other companies have market share [0-5%]²⁶ or less.

89. An analogous development can be seen when one examines the development of market share measured by traffic which has dropped from 69% in 2008 to 60% in 2011. The drop in share has been rather faster after 2008 than it was during the period 2003 to 2007. Nevertheless, the Siminn market share is still very high and well above the reference levels that are generally considered to indicate significant market power.

Figure 5.2 Market share % - traffic in domestic fixed line telephone services



Source: Post and Telecom Administration.

90. The second largest company on the fixed line telephone services market is Vodafone. Its market share measured in total number of minutes in 2011 was about 31%. Tal had about 7% market share same time. As Tal purchases fixed line telephone services in wholesale from Vodafone, in accordance with resale agreement between the companies, one can assume that the Vodafone share at wholesale level was about 38% at the end of 2011. There is thus a significant difference between the market share of Siminn and Vodafone. The Siminn market share continues to drop but not very quickly. Given a similar reduction as there has been in past years one can assume that Siminn will still have the highest market share and that it will be over 50% for the next 2 to 3 years. Vodafone has pointed out that the nature of the resale agreement on which Tal bases its operations is such that it is relatively easy for the company to change service providers. It is thus possible that Tal could move its business to Siminn during the reference period, i.e. during the next 2 to 3 years.²⁷

91. Siminn has recently made an agreement with Tal on resale of voice telephony services. There is every possibility that when this agreement is implemented, Siminn's share in the wholesale market for call origination will increase and decrease correspondingly for

²⁴ Margins for confidentiality.

²⁵ Margins for confidentiality.

²⁶ Margins for confidentiality.

²⁷ See Appendix B Page 7.

Vodafone. The PTA also has information that [...] ²⁸.

92. According to well-documented case law, a share of over 50% on its own is sufficient for a company to be considered to have a dominant position, except in exceptional cases. There is still a large difference between the Siminn market share and that of its competitors on this market. The PTA considers that the Siminn high market share, whether it is assessed on the basis of income, or traffic, gives a clear indication that Siminn has significant market power on this market.

5.2 Overall size of a company

93. The size of the company for example on the basis of turnover or of some other metric can be important when assessing significant market power. If the company is significantly larger than its main competitors, then this can mean competitive dominance. Dominance can be in better production methods, more economic procurement, economic strength, access to capital, distribution and marketing.

94. A company with longer specialised experience on the market than that of its competitors has similar dominance, for example, in specialised knowledge in technical matters, knowledge of markets and of the legal environment.

95. Siminn is the largest electronic communications company in this country and has major and long experience of telecommunications. An organisational changes in the Skipti Group to which Siminn belongs has not brought any changes with respect to the overall size of the company or to its experience on the electronic communications market as the same electronic communications operations are within the group as before. The company is as before by far the largest electronic communications company in the country. The total turnover of the Skipti Group, i.e. of Siminn and Míla, on the Icelandic market was [...] ²⁹ ISK billion in 2011 or about [...] % ³⁰ of total turnover on the electronic communications market.

96. Vodafone has now operated on the electronic communications market for more than a decade and thus has significant experience of electronic communications operations. Further to this, Vodafone has an agreement with the International Vodafone group on cooperation in marketing and service issues and also has the use of its trademark. One can assume that this agreement strengthens the company to some extent, e.g. with respect to marketing and to a more varied service offer to users located abroad. Vodafone has [...] ³¹ ISK billion in income in 2011, of its operations in Iceland, which is about [...] % ³² of total turnover on the electronic communications market.

97. Three other companies operate fixed line telephone networks and they are Símafélagið, Hringdu and Nova. They are very small in comparison with Siminn and Vodafone, whether in terms of the scope of their networks, of market share or of turnover.

98. Having taken the above into consideration the PTA considers that overall size and experience on the electronic communications market strengthen Siminn's position on the

²⁸ Deviation band included for reasons of confidentiality.

²⁹ Removed for reasons of confidentiality.

³⁰ Removed for reasons of confidentiality.

³¹ Removed for reasons of confidentiality.

³² Removed for reasons of confidentiality.

relevant market and indicates that the company's market power is significant.

5.3 Entry barriers

5.3.1 General

99. “Entry barriers” is a collective name for various factors that can influence companies' market power. If there are few barriers to a market then possible profitability is an attraction for new companies to gain market share from the incumbents. Possible competition from new parties can influence the behaviour of a company with significant market power and can diminish its harmful influence on competition. Entry barriers on the other hand weaken or prevent competition. There is a strong relationship between entry barriers and profitability. The more entry barriers that exist, the greater the profitability that can be expected from incumbent companies, which can often be attributed to a lack of competition rather than to efficiency. An ideal situation for an incumbent company is one where there are many entry barriers and few exit barriers. In such circumstances incumbent companies deter new companies from establishing themselves and companies with profitability will soon give up. Here below there is discussion on the main barriers that are considered to prevent entry of new parties to the market for call origination.

5.3.2 Control of facilities that are difficult to replicate

100. When a company has control over facilities that are difficult or expensive for others to replicate, this can be a significant barrier for competitors. An example of such facilities is a fixed line telephone network.

101. To be able to offer call origination in a fixed line network, companies need to control an access network or to the possibility of access to such a network. Míla ehf., which is part of the Skipti Group along with Siminn, has a copper local loop network which connects almost all users of fixed line telephone services in Iceland. Electronic communications undertakings have the option of leasing access to the Míla local loops and can offer their own fixed line and/or Internet services through the local loops. The companies need to install their own telephone exchanges for fixed line telephone services and DSLAM for Internet connections. New electronic communications undertakings in this country have invested in telephone exchanges and DSLAM in areas where there is a sufficient number of inhabitants. Development outside the capital city area has been rather limited and in the least populated areas such investments have not been considered feasible option and in those places fixed pre-selection has been the most common way to offer fixed line telephone service.

102. Control of facilities which are not easy to replicate can be a barrier to entry on the market here under discussion. In recent years companies have increasingly invested in telephone exchanges which make it possible for them to offer voice telephony services through the Míla copper local loop. This indicates that while wholesale access to the Míla copper local loop network is controlled in a similar manner to the way it is now then the Skipti Group control of the access network is not necessarily a significant access barrier on this market. This view is supported even further by the fact that other companies on the market should be able to offer Internet phones. Most companies that have invested in telephone exchanges only however have facilities in the capital city area and it is more difficult for them to enter this market in the provinces.

103. Though it is difficult to acquire facilities that are in any way comparable to the access network controlled by the Skipti Group, technical innovations and the obligation to provide access to the copper local loop network has meant that new parties on the market need not invest as much in equipment as they would have had to before. Since the PTA analysis on the market was published in 2008, it has become more and more common for new companies to invest in telephone exchanges. The PTA thus does not see control of facilities that are difficult to replicate as a significant access barrier on this market.

5.3.3 Sunk costs

104. Fixed sunk costs are fixed costs that can be related to irretrievable investments. As an example, one can mention a case where a service provider cannot expect to recover the investment that he has made, for example by selling the investment should the service provider decide to leave the market. Sunk costs mean that a new service provider needs to bear higher costs than the service providers that have already established themselves on this market. This difference in cost is in reality an entry barrier for potential new competitors on the market.

105. If electronic communications companies need to invest in the new access network in order to enter the market for call origination in a fixed line network, then this would necessitate enormous costs which would to a large extent be sunk costs. While there is an obligation on Míla for access to local copper loops at a fair price then new companies do not need to make an investment in an access network. With the situation as it is today, companies can start by investing in one telephone exchange to start with. Such investment is not beyond their capability and could in many instances be recoverable as it could well be possible to sell the exchange should the company cease operations. For this reason, the PTA considers that investments in equipment do not need to result in major sunk costs on this market.

106. Marketing costs are sunk costs. Should a company decide to cease operations on the market then costs expended in marketing are lost. Through its decades of operations on the market Siminn has created considerable goodwill for itself. Vodafone has also operated on the market for many years and uses a trademark that is very well known worldwide. This is the main difference between the position of new companies on the one hand, and Siminn and Vodafone on the other in connection with marketing, which requires considerable sunk costs. It is however not possible to assert that such costs are greater than is generally the case in commercial operations.

107. On the whole, the PTA considers that sunk costs do not represent significant access barriers to the market here under discussion.

5.3.4 Economy of scale

108. Economy of scale is said to exist in company operations where increased production means a lower total cost for a product or service unit. This is characteristic for technical companies which have relatively high fixed costs and low variable costs. Economy of scale can act both as an access barrier, and as a market advantage. Network operators already on the market endeavour to operate their own networks with maximum efficiency. New network operators need time to develop their operations, gain a customer base and traffic, and can thus

not expect to enjoy the same economy of scale as those that have operated their networks for years.

109. Siminn is the country's largest electronic communications undertaking, being the company with the greatest turnover, the largest electronic communications network and most customers. Siminn's economy of scale is manifested inter alia in lower unit costs resulting from a large number of sold units. There can also be economy of scale in operations, for example with a better use of human resources and other resources required to provide satisfactory services. This factor can in some instances be a barrier to entry into the market.

110. The PTA considers that Siminn enjoys significant economy of scale on the market here under discussion, because Siminn offers services across the whole country and has the largest number of customers. Vodafone has grown in size from the time that the last analysis was made of this market and one may assume in this instance that the possibilities for more efficient operations have increased proportionately. The PTA however considers that there is still a great difference in possible economy of scale between Siminn and Vodafone on this market.

111. The PTA considers that Siminn enjoys greater economy of scale on this market than any of its competitors because of a very diverse product offer and because of its large number of customers on various electronic communications markets. Economy of scale and synergies contribute to the strengthening of Siminn's position on the market. The PTA considers that Siminn on its own and as a part of the Skipti Group enjoys economy of scale, which contributes to the strengthening of its position on the market and that this creates an entry barrier to the market in question.

5.3.5 Economy of scope

112. Economy of scope is where it is less expensive to manufacture two or more products together than each on its own. A lower cost is achieved by jointly using resources in the production. A good example of this is the use of an electronic communications network where a variety of services are offered to consumers. Economy of scope can act both as an entry barrier for new parties and as an advantage in the market over competitors.

113. Siminn and Vodafone have the most varied service offer of all electronic communications undertakings in the country. They sell both comprehensive electronic communications services and television services. In addition to this, they operate their own electronic communications networks, to a much greater extent than other electronic communications undertakings. The networks within the Skipti Group are by far the most extensive operated in this country. With the organisational changes that were made in the Skipti Group in 2011 attention was paid to the synergies between subsidiaries and the operation of the companies were brought close to the way things had been before, but without actually merging the companies again. This increased economy of scope with Siminn, as the sharing of premises and of support services will increase.

114. The PTA considers that most economy of scope exists in Siminn's electronic communications services, which new companies on the market do not enjoy to the same degree.

5.3.6 Access to capital

115. Access to capital can have a deciding influence on the possibilities for a company on a competitive market. This particularly applies to markets that demand high initial investment. The difference between companies, with respect to access to capital could be a barrier to entry. Financially strong companies with good access to capital, other things being equal, are in a better position and can more easily protect themselves from competition than comparable companies that do not have as good access to capital. Good access to capital can both represent an entry barrier and can indicate market power.

116. It would be an extremely capital-intensive endeavour to build up another base network in competition with Skipti Group. As has already emerged, it is not necessary to build a new network to enter this market; however, market entry entails substantial expense for marketing, etc.

117. Very unique circumstances pertain on financial markets at this point in time. There has been a climate of international financial crisis in recent years and the financial crisis in this country has been particularly difficult and has impinged on all economic activity in this country. One must consider it certain that financing is tighter for all companies on the relevant market and that this factor does not give specific companies on the market the competitive advantage they once enjoyed. It is on the other hand clear that capital for new investments in networks is harder to get than before and can thus be a significant entry barrier to the market. The effects of the recession will in all likelihood diminish as time goes on, but it is likely that they will have a negative impact on the possibilities of entry into the market for new companies during the coming years.

118. Siminn is the country's largest electronic communications undertaking, and it generates more revenues and returns on its electronic communications services than other undertakings in the market. In general, it can be concluded that a company of this size, with established operations, will have better access to capital than will new companies wishing to enter the market. In addition to this, one has to keep in mind the ownership of the largest electronic communications companies, Siminn and Vodafone. Síminn is owned by Skipti hf. which is owned by Klakki ehf., and the three largest shareholders in Klakki are Arion Banki hf., Kaupthing hf. and Burlington Loan Management LTD.. Vodafone is owned by investment and pension funds. The largest shareholders in Vodafone are the holding company Eignarhaldsfélagið Vestia ehf. and the investment fund Framtakssjóður Íslands slhf. which is also the owner of Vestia. Framtakssjóður Íslands is owned by 16 pension funds, Landsbanki hf. and the insurance company VÍS.

119. The PTA considers that access to capital for new companies on the market is difficult in the current situation. Despite the fact that there has been a certain reduction in the cost of entering the market, the shortage of capital for new investments is still an access barrier on the market.

5.3.7 Highly developed distribution and sales network³³

120. Highly developed distribution and sales network can act as entry barriers for new parties and as a competitive advantage. This particularly applies on markets where substantial costs are tied up in the development of distribution and sales systems or where all the companies have made exclusive agreements with the largest and/or most important distribution parties on the market.

121. Distribution and sales systems can represent a large investment for new companies that would like to establish themselves on a given market. The presence of established operators that have perhaps written off their expenses can represent an entry barrier for new operators. Companies that have an efficient distribution and sales network at their disposal can therefore have a competitive advantage over new market participants.

122. Investment in a distribution and sales systems is not directly proportional to its number of customers or its total sales; actually, in smaller companies, this investment expense is proportionally higher per customer. Therefore, an investment in an efficient distribution and sales system represents economy of scale. The development of such systems can also be time-consuming and Siminn has for example developed its service systems over a period of several decades while new companies must develop such systems from scratch.

123. Efficient distribution and sales systems are the foundation on which customers services rest as it is normally through service systems that customers communicate with the company. It is through the service systems that sales are registered, ordered, activated and the charges collected to invoicing. It is difficult to see how a company can maintain reliable operations and a sufficiently high level of service to build up a convincing position on a service market without such systems.

124. During the past decades distribution and sales systems and line book-keeping have been developed within the Skipti Group which benefits Siminn. One must also assume that Siminn can make use of the joint order entry system and invoicing within the Skipti Group.

125. Vodafone has been operating for many years, for most of the time as part of Teymi. During that time Vodafone has developed distribution and sales systems. One must assume that Vodafone has a stronger position with respect to these systems than new companies. Vodafone's position is however not as strong as that of Siminn.

126. The PTA considers that investment in highly developed distribution and sales system can be an entry barrier for new companies. This particularly applies if new companies are not granted direct access to the Siminn based systems.

³³ Service systems is a collective name for the following systems:

- Sales system
- Order entry system
- Line book-keeping
- Service information
- Invoicing

5.3.8 Barriers to growth

127. A market with significant potential for growth is much more attractive to new operators than is a stagnant (mature) market. It is probable that undertakings contemplating entry into a stagnant market must lure customers away from established operators. If there are limits to a market's potential to grow and offer more extensive services than those existing on the market, entry barriers may exist.

128. Given that local loops have been laid to every commercial and residential property in Iceland, it can hardly be said that there is significant growth potential in this area. Demand for fixed-line telephone service has peaked and is now on the wane, due in part to increased mobile phone use. New operators entering the market must concentrate on luring customers from incumbents, as there is little reason to anticipate any sizeable increase in the number of new users.

129. The PTA's conclusion is that this market can be viewed as mature and that this constitutes an entry barrier and tends to enhance the position of well established companies in the market, and Siminn is the lead company in this category.

5.3.9 Conclusion concerning entry barriers in the relevant market

130. It is the conclusion from the PTA in assessment of entry barriers on the market for call origination in public fixed line networks that they are significant. It is easier than before to build up the infrastructure necessary to provide access to a fixed line telephone network with the advent of IP telephone exchanges and the obligation on leasing of local copper loops. Nonetheless, in this context there is a sizeable difference between Siminn's position and that of other undertakings, as Siminn has built up telephone exchanges all over Iceland, and the company belongs to the same group as Míla, which owns and operates all of the copper local loops in the country. Other operators have difficulty in building up infrastructure as extensive as that of the Skipti Group. The economies of scale and scope that Siminn enjoys create a barrier for new undertakings wishing to enter the market. The PTA views the telephone market as a mature market and considers the limited potential for growth to be a barrier to new competitors and also that access to sales and distribution systems is also an entry barrier.

5.4 Potential competition and innovation

131. If it is easy for new companies to enter a market then there is usually less opportunity to exercise significant market power than on markets where there is little innovation. Technological development can thus be important with respect to the creation of competition on markets.

132. Today it is easier for companies to enter the fixed line telephone market than it was a few years ago. The reasons for this are mainly the advent of leasing of local copper loops and technological developments in the field of telephone exchanges. Three new companies have recently entered the market with their own telephone exchanges. It is however clear that it will take a long time such companies to establish themselves on the market and they are as yet not a significant threat to the large companies on the market. Market share of the new companies are still very small, and one must keep in mind that it took Vodafone many years to achieve the market share that it has today.

133. Technological development can also influence market conditions by the creation of new types of services that are used instead of traditional fixed line telephone services. Various kinds of Internet telephone services have appeared in recent years, which to some extent are used as substitutes for fixed line telephone services. The PTA believes that Internet telephone services have not had such an impact on the fixed line telephone market that they have discernibly impacted on Siminn's market power. Siminn itself offers Internet telephone services that fall within the definition of the relevant market, see Chapter 2.3.8. The service that is not a part of the relevant market still does not yet have sufficient uptake and is not considered being a substitute service for fixed line telephone service. The development of Internet phone services of various kinds will without doubt continue and its distribution will doubtless increase, but the PTA does not consider there to be indications that this will happen at such a pace that it will have a significant impact on the market in question in the next 2 to 3 years.

134. The PTA believes that potential competition and innovation in the use of Internet phones will not reduce Siminn's market power on this market during the period of validity of this analysis.

5.5 Behaviour of parties to the market

5.5.1 Product/Service diversification

135. If an undertaking offers a very diverse range of products and services, this can promote enhanced goodwill and can make it difficult for competitors to enter the market. A service provider with a dominant position in a given market could link services or products in that market with services or products in another market so as to offer an integrated package of products/services that will be distinct from the offers of other service providers, who have limited possibilities for engaging in similar behaviour. For this reason, bundling of services/products could promote a dominant position in one market while leading to increased dominance in another market.

136. In the market for fixed line telephone services, it is possible to bundle telephone subscriptions and access to other electronic communications services and images. Siminn and Vodafone are the only companies that offer comprehensive telecommunications services and in addition television services. The PTA considers it to be an extremely significant factor if a company can offer all of these service categories, as a large number of users choose to do business with only one electronic communications company and would rather choose the company that offers the greatest variety of services.

137. With respect to the service offer, Siminn has the advantage over Vodafone in that within the Skipti Group to which Siminn belongs, the country's most extensive electronic communications network is operated in the company Míla. The Group thus has a comprehensive service offer both at retail and wholesale levels. Bundling of different categories of services at retail level attracts customers and that strengthens the company's position at wholesale level with more traffic and income and more efficient use of networks. A comprehensive service offer at wholesale level distinguishes the Skipti Group from other sellers at wholesale level and is such that it improves its market strength.

138. The PTA considers that a broad and varied service offer and the possibilities of

bundling different types of service strengthen the positions of Siminn and Vodafone on the relevant market. These factors strengthen Siminn more than Vodafone because of the dominance of the Skipti Group on wholesale markets.

5.5.2 Vertical integration

139. If the operations of a service provider reach more than one level in the value chain, that service provider is said to be vertically integrated. It is most common that a vertically integrated undertaking operates both upstream – it supplies its own services or products – and downstream – it provides services to purchasers. A vertically integrated service provider can deploy its upstream strength in order to keep competitors out of the market downstream; for example, through pricing at the upstream level or by not offering its downstream competitors' products at the upstream (wholesale) level. In this way, a vertically integrated undertaking that has a strong position in the wholesale market can enhance its position in the downstream (retail) market.

140. The Skipti Group's operations in relation to fixed-line telephone traffic are vertically integrated. It can be said that the first wholesale level is local loops and the infrastructure is controlled by Míla. This is followed by fixed line telephone services at the wholesale level – in this case, call origination – and finally, fixed line telephone services at the retail level.

141. The strong position of the Skipti Group in the local loop market enhances Siminn's strength in the wholesale markets for fixed line telephone services and could actually obstruct most competition if no obligation to grant access to local loops were imposed.

142. It is beyond dispute that strength at the prior sales level can increase the strength of a vertically integrated undertaking at the latter sales level, but market power can make an impact in the opposite direction as well. Siminn's large market share in the retail markets is reflected in its market share in the wholesale markets, and new operators with a small share of the retail markets will experience difficulty in building their strength in the wholesale markets.

143. When the electronic communications market was liberalised, Siminn was subjected to the obligation to grant access to its networks at the upstream sales level at cost-analysed prices. Siminn's competitors have often had reason to complain to the PTA about the interconnection prices Siminn has charged them. It is therefore necessary to monitor both access and prices at the upstream level in order to ensure that vertical integration does not strengthen Siminn's position in this market still further.

144. Since the last analysis was made on the market for call origination in fixed line networks, Vodafone has somewhat extended its network and new parties have entered the market with a very few telephone exchanges. No company operating on the fixed line telephone network market has, however, invested in a local copper loop system. Siminn still has by far the largest market share at retail level. The vertical impact on the wholesale market in question is thus still almost entirely within the Skipti Group where there are still dominance both upstream (local copper loops) and downstream (retail).

145. The PTA is of the opinion that Siminn's vertical integration tends to enhance its strength in the market under discussion.

5.6 Circumstances on the demand-side

5.6.1 Countervailing buying power

146. Buyers with a strong negotiating position can influence competition and can limit sellers' possibilities to operate without taking into consideration competitors and customers. A strong negotiating 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 commence production of a comparable product/service.

147. Siminn is still by far the largest party on the retail market for fixed line telephone services. Siminn is thus in reality by far the largest purchaser for its own service for call origination. Other purchasers of call origination from Siminn have low market share and thus they have limited possibilities to influence terms of business in agreements with Siminn. Tal does however have a share of the retail market that could give some leverage for exerting countervailing buying power, but the PTA considers that this is not possible for the other smaller companies.

148. The service on offer with Siminn on the relevant market resulted from obligations that were imposed on the company and not because of pressure from purchasers of the service.

149. The PTA conclusion is that countervailing buying power is negligible on this market and thus does not have a significant impact on Siminn market strength.

5.6.2 Customer choice and potential switching costs / the effects of binding contracts

150. If a service provider has a dominant market position, limitations or costs of switching provider company can enhance that provider's opportunities to behave without concern for the market. Such limitations can be commercial, technical or financial in nature, but they can also be a consequence of the user trusting established service providers more than new ones and being unwilling to take the risk of switching providers.

151. It is worth mentioning that users have considerable freedom of choice in the retail market. With the changes made to the Electronic Communications Act in 2007 it was stipulated in Paragraph 2 of Article 37 that the maximum contractually binding period should be six months. Furthermore, the provision states that once the six-month period during which the subscriber is contractually bound has passed, the contract may be cancelled with one month's notice. Should the subscriber decide to switch to another electronic communications undertaking, it must be guaranteed that the transfer of service will proceed smoothly. It is therefore not possible to state that significant switching costs exist in the retail market.

152. In the relevant wholesale market for call origination, however, customers have limited freedom of choice. Only Siminn and Vodafone offers call origination to other undertakings. Other companies provide this service only to themselves and only in limited geographical areas. Other companies than Siminn have limited possibilities to significantly extend their geographical coverage and must therefore turn to Siminn with their customers where they have not installed their own telephone exchanges. It is a significantly expensive process to switch from doing business with Siminn to installing one's own service. These costs could however decrease somewhat with the advent of the Internet phone.

153. Should a company choose to switch from one of the companies that offer wholesale services to the other one, then it is not certain that the cost of the switching will be significant. This could however depend on the nature of the wholesale agreement that is in force, if, for example, there is a period of contractual commitment or high start-up costs. With regards to the question of choice one must keep in mind that the Vodafone network does not cover all regions, which means that companies that wish to have coverage across the whole country need to buy some of their services from Siminn, directly or indirectly.

154. It is the opinion of the PTA that the lack of choice and in some instances the costs of switching strengthens Siminn's position on the relevant markets.

5.6.3 Customer access to information

155. If customers are to be able to choose from among service providers in the market, they must have access to information that enables them to compare the various offers that are available. Complex price lists and manifold bonus and discount offers can complicate customers' choices and can further strengthen a dominant undertaking's position in the market. Siminn publishes a tariff in accordance with the obligation for transparency that was imposed on the company on the relevant market. The same kind of obligation was not imposed on Vodafone and one cannot see a wholesale tariff published on its website. Access to information on conditions and prices on the market is thus not as good as it could be and it is not possible to compare the terms on offer by examining published data.

156. It is the opinion of the PTA that if it were not for obligations pursuant to the Electronic Communications Act then access to information would not be easy and there would be little transparency on the market. Such a situation would inhibit competition on the market.

5.7 Conclusion and designation of companies with significant market power on Market 2

157. The assessment of significant market power is based on the ESA Guidelines and various other criteria. The PTA complies with the instructions in Paragraph 76 of the Guidelines and takes into account current market conditions in its analysis of the market. The market analysis discusses developments in recent years and considers the likely developments in the months to come.

158. In paragraph 1 of Article 18 of the Electronic Communications Act no. 81/2003 it is stated: *“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.”* This is an important point of departure in the market analysis, and the PTA wishes to emphasise that significant market power is the appropriate measure, not abuse of a dominant position. Therefore, the core of the market analysis is not whether an undertaking has misused its dominant market position. 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 important, conduct that enhances a dominant position or maintains the competitive advantage enjoyed by a dominant undertaking can strengthen that undertaking still further.

159. An undertaking can have significant market power alone or jointly with one or more other undertakings. If it is concluded that an undertaking has significant market power, it is generally unnecessary to consider the question of joint dominance with one or more other operators. However, if it is concluded that no single operator has significant market power, it is necessary to examine the possibility of joint dominance together with other undertakings. If an undertaking has a dominant market position in a given market, it is also possible to decide that it also has a dominant market position in a related market if the relationship between the markets is such that the undertaking can use its strength in one market to enhance its strength in another, see Paragraph 2 Article 18 of the Electronic Communications Act.

160. As has been stated above, there has been considerable development towards competition since the previous analysis of the market was made in 2008. Vodafone now offers call origination in wholesale and three new companies, Nova, Hringdu and Símafélagið, have entered the market with their own exchanges. The Siminn market share has dropped somewhat during the period 2008-2011 or from [75-80%]³⁴ to [65-70%]³⁵ measured by total income from fixed line telephone services or from 69% to 60% measured by total traffic in fixed line telephone networks.

161. In the opinion of the PTA there are still significant entry barriers on the market. Despite the fact that new companies have entered the market it is clear that their operations are on a very small scale and that it is difficult and time-consuming to establish oneself on the market in such a manner that operations will prosper in the future.

162. The PTA considers that vertical integration of the Skipti Group significantly strengthens the position of Siminn on the relevant markets. As purchasers of wholesale services on the market are very small in comparison with Siminn, countervailing buying power does not exist, and there is nothing that indicates that competitors, customers or consumers can influence Siminn's tariff with respect to call origination in fixed line telephone networks.

163. The PTA considers that the reduction of Siminn market share, the entry of new parties to the market and pressure from other types of services is not yet at the level that can impact on Siminn's significant market power. Siminn share is in the range of 60-70% according to the most common metrics for market share. The company's high market share indicates that it has significant market power. According to the European Court case law, market share over 50% is on its own an indication of significant market power except in the case of unusual mitigating circumstances. The PTA considers in the light of Siminn's high market share and taking into account the previously mentioned factors that are such that they would inhibit competition, that is, above all reasonable doubt that Siminn enjoys significant market power on the relevant market. The PTA considers there to be no indications that changes in the criteria will be such in the next 2 to 3 years, that there will be a significant reduction in the Siminn market power.

164. With the above in mind the PTA intends to designate Siminn as having significant market power on the market for call origination in public telephone networks provided at a fixed location (Market 2).

³⁴ Margins for confidentiality.

³⁵ Margins for confidentiality.

6.0 Evaluation of market power on markets for call termination in individual public telephone network provided at a fixed location (Market 3)

6.1 General

165. Markets for call termination are unlike other electronic communications markets, to the extent that the market in the country as a whole is not the starting point. Analysis of the call termination market is based on the competitive position enjoyed by the service of each service provider. The service provider that controls call termination access in an individual network has a de facto monopoly on the market in question.

166. The PTA considers that there is no need, with respect to market 3, to assess all criteria for significant market power as they are presented in the Guidelines. In the opinion of the PTA the most important factors for analysing the relevant market are market share, entry barriers and possible competition, countervailing buying power and price development. The PTA considers that assessment of those criteria that have been omitted here would not change the conclusions of the market analysis in the light of the special circumstances resulting from the definition of the call termination market.

6.2 Market share

167. In accordance with the definition of the wholesale market for call termination in individual fixed line networks, each electronic communications network is one market and thus there is only one company on each market. This means that regardless of how it is measured, each company has 100% market share in the relevant market. In accordance with the above one must consider that those companies that offer call termination in fixed line networks enjoy a monopoly. The companies in question are Siminn, Vodafone, Hringdu, Nova and Símafélagið.

168. In the opinion of the PTA, call termination in a fixed line network is such that there does not seem to be any reason to imagine that the number of calls with termination in Siminn's network is in anyway different from the number of calls that originate in Siminn's network. According to this, 60% of all termination in fixed line systems should take place in the Siminn network. Even though each telephone network which is used for call termination in a fixed line network is a separate market, the difference in the magnitude of Siminn services on the one hand and of other service providers on the other has a certain impact on the proportion of market power.

169. The previously mentioned 100% market share of all of the specified service providers, gives a strong indication that the companies enjoy significant market power on the wholesale market for call termination in their own fixed line networks and that they can to a significant extent operate without taking into consideration customers or other electronic communication companies.

6.3 Price development

170. Price development can provide indications as to whether active competition exists or

not. In 2008, before the previous analysis of this market was published, the position was that Siminn was obliged to offer prices based on costs, but Vodafone on the other hand, was not subject to such an obligation. The Vodafone termination charge was then about 50% higher than the Siminn termination charge. With the PTA decision in December 2008, obligations were imposed on both Siminn and Vodafone to the effect that their call termination charges should be cost-analysed.³⁶ Siminn was to make a cost analysis and Vodafone to lower its prices in stages over four years until they were the same as those of Siminn. As pricing at Siminn and Vodafone has been controlled with obligations for the last four years it is not possible to draw conclusions with respect to competition on the market from price development in these companies.

171. The pricing of termination by new parties to the market does however indicate that there has been little change in conditions for competition on the termination market since 2008. As was stated in Chapter 3.4 the minute rates for new entrants to the market that are not subject to obligations are up to 13% higher than those of Siminn.

172. It is clear that network operators can still decide termination charges in their networks without much concern for their competitors, customers or end users. The PTA considers that pricing of termination by companies not subject to obligations, clearly indicates that each network operator has significant market power in his own network.

6.4 Entry barriers, and potential competition

173. In general, potential competition from new service providers affects the behaviour – including prices – of dominant operators in the market. On the other hand access barriers of various kinds can weaken the prerequisites for possible competition and can even prevent competition.

174. Termination of telephone calls in networks is made in the network to which the recipient of the telephone call is connected. There is no existing technology in fixed line networks that enables any party other than the service provider of the recipient of a telephone call to offer the service of termination of telephone call. This is true both of service provided with conventional interconnection technology and of service based on Internet phone technology.

175. The key to the competition problem on this market can be found in the fact that other parties cannot offer this service and this is the fundamental reason for regarding each network as an independent market. Should developments lead to it being possible for other parties to offer call termination in such circumstances, then this would lead to a fundamental change in the state of competition on this market. The PTA however considers that there is no indication that such technology will appear on the market in the foreseeable future.

176. The prevailing rule – that the calling party pays – also diminishes the effects of competition in the call termination markets. The reason is that the CPP principle gives users no incentive to switch service providers because new operators offering lower termination charges have entered the market.

³⁶ With the decision of the PTA number 15/2011, dated 27 May, 2011, on cost analysis of wholesale prices for origination, termination and transfer of telephone calls in fixed general public telephone networks, the PTA endorsed the Siminn cost analysis with specific amendments.

177. In the PTA's estimation, an assessment of entry barriers has limited significance as long as potential competition remains insignificant. Therefore, the PTA considers it unnecessary to evaluate other possible administrative or market-related entry barriers.

6.5 Countervailing buying power

178. Buyers with a strong negotiating position can influence competition and can limit sellers' possibilities to operate without taking into consideration competitors and customers. A strong negotiating 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 commence production of a comparable product/service.

179. Calling parties' service providers constitute the demand side of this market. This could be fixed line and mobile phone companies, both domestic and foreign.

180. Three factors indicate that customers' countervailing buying power is very limited in Market 3:

a. The original service provider has no choice concerning the demand for call termination

b. The original service provider has little possibility of refusing the counterparty comparable service when the traffic lies in the opposite direction because the Act on Electronic Communications generally requires that termination service be provided to those requesting it.

c. The main rule that the calling party pays this means that there is little incentive for service providers to offer lower termination charges. High termination charges generate increased revenues at virtually the same cost, even if prices are lower. Furthermore, high termination charges can compromise competitors' operational conditions in the retail market.

181. Experience shows that companies that offer termination in their own networks, can adjust the pricing without much concern for competitors and users. It was only in the first years after competition was enabled that Vodafone offered the same termination charges as Siminn. Vodafone then increased its termination charges by about 50% in excess of those of Siminn and this difference remained until the obligation for price control was imposed on Vodafone in 2008.

182. Other new companies that have entered the market have usually had higher termination rates than Siminn. The difference has been up to 74%. It seems that countervailing buying power does not exist on this market to the extent that it impacts pricing.

183. It is not possible to evaluate the impact of countervailing buying power on Siminn from circumstances that prevail today as Siminn is subject to obligations and does not decide its own termination rates. The PTA considers on the other hand that as the smallest sellers on the market are subject to little or no influence from buyers on the market it is possible to conclude that the largest seller, that is Siminn would not be influenced by smaller companies and would, in the same manner as other companies tend to decide its termination charges

without concern for other parties on the market, where there are no obligations on price control.

184. The PTA considers that countervailing buying power on this market does not exist to the extent that it can influence competition and limit the seller's possibilities to operate without concern for competitors or customers. This applies to all companies on the market, large and small.

6.6 Conclusion and designation of undertakings with significant market power on Market 3

185. Today there are five companies that offer call termination in their fixed line network, which falls within the description of the relevant market. Síminn is the largest company, next is Vodafone and the smallest companies are Hringdu, Nova and Símafélagið. In the definition of the relevant market all the companies have 100% market share in call termination in their own fixed line telephone networks. As has been stated previously a company's persistent and high market share indicates that it has significant market power. According to the European Court case law, market share over 50% is on its own an indication of significant market power except in the case of unusual mitigating circumstances.

186. In the opinion of the PTA the relevant market is characterised by high and non-transitory entry barriers and possible competition is not foreseeable in the coming years. No technological innovations have seen the light of day since the last analysis was made on the market that could make it possible for more than one service provider to offer call termination concurrently to the user in an individual fixed line network.

187. In light of the above market analysis, all indications point to each net operator having significant market power for call termination in their own fixed-line networks. In order to come to another conclusion there would need to be factors that significantly influence the market power of the companies. Such factors would first and foremost constitute countervailing buying power. The market analysis indicates that there are no competition factors on the market that would create pressure on the price for call termination in fixed line networks. The technology does not, as things stand today, provide the possibility for substitutability in supply. There is no countervailing buying power, neither at wholesale nor retail level, and there is nothing to indicate that competitors, customers or consumers can have an impact on call termination price.

188. With the above market analysis in mind the PTA intends to designate Síminn, Vodafone, Hringdu, Nova and Símafélagið with significant market power on the market for call termination in individual public telephone networks provided at a fixed location

7.0 Imposition of regulatory obligations

7.1 In general, on obligations

189. According to Paragraph 2 of Article 17 of the Electronic Communications Act, market analysis shall be the basis for decisions on whether the PTA shall impose, maintain, amend or withdraw obligations on undertakings with significant market power. If a market analysis reveals that there is no effective competition in the relevant market and that one or more electronic communications undertakings in that market possess significant market power, the PTA is authorised to impose one or more obligations on the undertaking, that is designated as having significant market power, in accordance with Article 18 of the Electronic Communications Act. If the PTA has previously imposed specific obligations on operators pursuant to the previous Telecommunications Act, these shall be reviewed and either maintained, amended, or withdrawn in accordance with the results of the market analysis.

190. Article 27 of the Electronic Communications Act states that, when an electronic communications undertaking is designated with significant market power, the 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 competition³⁷ These obligations are described more fully in Articles 28 – 32 of the Electronic Communications Act.

191. When selecting obligations to be imposed in order to solve specific competition problems, it is necessary to use several fundamental principles as guidelines.³⁸ All obligations imposed shall take into account the nature of the specified competition problem and shall be designed to solve it. They shall be transparent, justifiable, reasoned, and in line with the objectives they are designed to achieve – that is, to promote competition – as well as contributing to the development of the internal market and safeguarding users' interests. Obligations must be proportionate and may not impose heavier burdens on operators than is considered necessary.

192. In the report of the European Regulatory Group of National Regulatory Authorities (ERG),³⁹ on obligations⁴⁰ emphasis is placed on developing competition in the construction of electronic infrastructure and networks where this is considered desirable. In such instances the imposed obligations should support such development. When infrastructure-based competition is not considered desirable due to significant and persistent 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 them.

³⁷ See also Articles 9-14 of the Access Directive.

³⁸ See Article 8 of the Framework Directive.

³⁹ Now the Body of European Regulators for Electronic Communications (BEREC),

⁴⁰ Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework Final Version May 2006.

http://www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

193. For the long term, service-based competition that has its foundation in steered access to a cost-analysed price can be a tool for generating competition through the development 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.

194. In selecting the obligations that are best designed to promote competition in a given market, it is often beneficial to consider the position that would exist if obligations were not imposed on undertakings in the relevant market and whether it would be sufficient to use competition legislation alone to guarantee effective competition.

195. Obligations are imposed on undertakings with significant market power with the aim of combating real and/or potential problems in the field of competition in the markets in question. Problems in the field of competition refers to any kind of behaviour by accompanied with significant market power, which is intended or leads to competitors being forced out of markets, which prevents potential competitors from entering the market and or damages consumers' interests. When obligations are applied pursuant to the Electronic Communications Act, the reason for doing this is not in fact that the party is misusing market dominance. It is sufficient that competition problems could possibly arise under given circumstances.

7.2 Competition problems in the market for call origination (market 2)

7.2.1 General

196. In the analysis of the market for call origination (Market 2), the PTA came to the conclusion that effective competition did not exist in the market. Siminn's market share in this market is now 60% by number of minutes in each network. Competition problems in the market for call origination typically manifest themselves as barriers to entry. The major economies of scale and scope related to Siminn infrastructure that are already in place are one of the main reasons for these entry barriers. In addition to this countervailing buying power is limited. The fact that the market is mature and that there is a decrease in the sale of fixed line telephone services, diminishes the possibilities for new companies to establish themselves on the market.

197. The PTA described the competition problems on the market in its analysis from 2008. As has been stated here above there have not been significant changes in the structure of the market since then. The structure of the market is broadly as it was in 2008, and Siminn still has by far the largest market share of the market and enjoys significant market power. In the light of the fact that circumstances have not changed much since 2008 the PTA considers that the same competition problems exist to a great extent. Competition problems on the market can be divided into two main categories. First there are problems related to vertical exertions of market power, and second, problems related to the significant market power of a single undertaking. The following section reviews the various competition problems that could emerge in this market. While this summary is not necessarily exhaustive, it includes a number of potential competition problems that the PTA has identified in view of the conditions that would exist if no obligations were imposed in this market.

7.2.2 Vertical exertion of market power

7.2.2.1 General

198. Vertical exertion of market power is when a vertically integrated company with significant market power upstream tries to transfer its market power from wholesale level over to a related market at retail level, for example by denying competitors access to essential facilities.

7.2.2.2 Refusal of access

199. The PTA is of the opinion that because Siminn has significant market power in the market for call origination at the wholesale level, the company has a great incentive to refuse access to potential competitors at the downstream level. If this is done it significantly limits competition on retail markets for fixed line telephone services.

200. Competition in the retail market for PSTN/ISDN is based to some degree on access to call origination services from Siminn. Very few of Siminn's competitors have the option of using other connections as a basis for nationwide retail services. Refusal of access could therefore force existing service providers out of the retail market or could prevent the entry of potential competitors into the market. Siminn has the incentive to refuse access because, in doing so, it could eliminate a large part of the competition in the relevant retail markets. This could then lead to rising prices and increased profitability. Refusal of access is therefore one of the main competition problems that can emerge in the market for call origination. This applies both to parties that own electronic communications infrastructure for fixed line telephone services and to some extent to parties that do not own such infrastructure and intend only to work in resale on the Siminn fixed line telephone network system.

7.2.2.3 Exertion of market power through pricing

201. It is possible to exert market power vertically through, e.g., discriminatory pricing and cross-subsidy designed to limit a competitor's business at the retail level, increase his costs, or create a margin squeeze. In this context, a margin squeeze results when the difference in the wholesale access price and the retail price of the vertically integrated service provider is so small that competitors in the retail market cannot return an adequate profit. They may therefore be forced out of the market. The Skipti Group could have the opportunity and incentive to apply a margin squeeze on related markets, which is to engineer an unnaturally tight price margin between the price for access to the local copper loop and Siminn's retail price. Obligations on the market for local loops are however limiting the possibilities for adopting such measures.

202. Siminn could practise discriminatory pricing in order to increase its competitors' costs at the retail level in comparison with its own retail operations. In this way, it is possible to exert pressure on competitors through a margin squeeze. This applies equally to pure resale through Siminn systems and to parties that to some extent have their own infrastructure for operating fixed line telephone services.

203. Siminn can discriminate with respect to prices by charging various prices for the same service but it is also possible to discriminate indirectly; for example, when a wholesale price

list is structured so that it is difficult for competitors to maintain the retail prices they would like to – for instance, because of extra charges at the wholesale level.

204. Discrimination in pricing does not necessarily have to be a competition problem. For example, offering bulk discounts based on objective criteria, often does not indicate a competition problem. However, if the discount threshold is high enough that no one receives a discount except the service provider's own retail division, price discrimination becomes a competition problem.

205. Cross-subsidy affects pricing in at least two markets: the wholesale market for call origination and the related retail market for telephone traffic. Siminn can exert vertical market power by charging prices in excess of costs in the wholesale market and charging prices below costs in the retail market. In this way, it is possible to use revenues from the wholesale market to offset losses in the retail market. The consequence is a margin squeeze that can exclude competitors from the retail market.

7.2.2.4 Exertion of market power through means other than pricing

206. It is possible to exert market power and discriminate through various means other than pricing. If a service provider with significant market power upstream is subjected to monitoring of its access prices, which makes price discrimination difficult or impossible, he then may have the incentive to discriminate in another manner.

207. Examples of such competition problems are: deliberately delaying service, making inappropriate demands on counterparties, discriminating with respect to quality and misuse of information on competitors. These competition problems will be described in more detail here below. These competition problems could, for example, give a service provider that has established itself on the market, a first mover advantage on competitors at retail level, and thus limit competitors' opportunities on retail markets.

Delays in service

208. If a company with significant market power provides competitors on the retail market with access to necessary connections, but takes a longer time to provide them than to its own retail department, then this is an example of measures that create competition problems.

209. Examples of ways to delay service include unnecessarily prolonged contract negotiations on access or citing technological problems that are either non-existent or easily solved.⁴¹ This problem creates uncertainty for competitors and can also increase their costs. If Siminn deliberately delays contract negotiations or delivery of services for call origination, this is actually a temporary refusal of access.

210. Siminn's retail department could also profit by protracted contract negotiations at the wholesale level involving promotions of new service elements. Under such conditions, the internal retail department could gain an advantage in the market by offering the new services in advance of competitors, who need more time to incorporate innovations into their operations than Siminn's own departments do.

⁴¹ See for example, the PTA decision from 27 April, 2001 in the dispute between Halló and Landssíminn.

211. Obligations imposed on Siminn have partially prevented Siminn from using deliberate delaying tactics in the market for call origination, especially because Siminn is required to offer call origination in accordance with the reference offer for interconnection. However, Siminn must be considered to have an incentive not to offer call origination; therefore, the PTA considers it likely that the company could use delaying tactics when it is required to grant access if there are no limits on the length of time the company has to deliver the service. Delays could be a particular problem if the request involves a service that is not included in Siminn's reference offer for interconnection. Siminn has the incentive to delay service deliberately in order to undermine the competitiveness of other service providers; therefore, this could be considered a competition problem.

Inappropriate demands

212. Among potential competition problems are all contractual terms and conditions that make special demands of competitors at the retail level and are not necessary in order to deliver the wholesale product but increase the competitor's costs or limit sales at the retail level. Examples of such demands are unnecessary technical requirements, unnecessarily high insurance fees, unfair payment terms, and long waiting periods.

213. The PTA is of the opinion that inappropriate demands in the purchase of call origination in the fixed-line network could be a potential competition problem.

Discrimination with respect to quality

214. A vertically integrated service provider with significant market power could both raise competitors' expenses and limit their sales by discriminating with respect to quality. Costs rise if poorer quality forces competitors to invest further or take other action in order to compensate for the lack of quality. Demand drops when it is impossible to offer the same quality as before and users are dissatisfied with the service available.

215. Siminn offers connections to both internal and external service providers and therefore has both the opportunity and the incentive to practise discrimination in the retail market in terms of sales to its own retail division, on the one hand, and to other service providers, on the other. At times, Siminn's competitors have maintained that the processing of orders for pre-selection and number portability take much longer when users want to switch from Siminn to a competitor than when they want to switch from a competitor to Siminn. This was previously confirmed with the PTA measurements. In the PTA's estimation, Siminn would have the incentive to practise quality discrimination in this manner if it were not prohibited.

216. The PTA is therefore of the opinion that quality discrimination in the purchase of call origination in the Siminn fixed-line network could be a potential competition problem.

Unfair use of information about competitors

217. Unfair use of information on competitors can take place when a service provider with significant market power in the wholesale market receives information on a competitor's customers in the retail market when the competitor purchases necessary connections. If this information is disclosed to the wholesaler's retail division, it is possible to use it for sales purposes or, in a marketing context, to design services to suit the competitor's customers.

218. Siminn has been found to practise such misuse on more than one occasion. The competition authorities have prohibited Siminn from contacting users that switch from Siminn

to other telephone service providers.⁴²

219. In the PTA decision from 17 November, 2010 (Decision 37/2010) the Administration came to the conclusion that Siminn had: *"...breached Article 26 of the Electronic Communications Act, Paragraph 3 Article 9, of the Siminn reference offer concerning interconnection of fixed line networks from 1 June 2009, derived interconnection agreements and obligations for non-discrimination, which were imposed on the company with the PTA decision from 20 July, 2006 and 4 December, 2008, by using information on electronic communications traffic that relate to wholesale transactions by electronic communications company for the purposes of marketing at the retail level against Nova ehf. and Og fjarskipti ehf."*

220. The PTA considers it clear that there is an incentive to misuse information about competitors, despite the fact that this is prohibited by law.

Unannounced changes in prices and products

221. Origination fees are an important part of the retail prices charged by Siminn by competitors that need to buy part or all of the service in wholesale. If Siminn raises its origination charges before the operators that purchase call origination from the company have a chance to adjust their retail prices accordingly, this could reduce these operators' profits temporarily.

222. It is also possible to change the content of a given service without this necessarily being reflected in the price. Changes in service can also lead to changes in retail products that should be announced with advance notice. If this is not done in a timely manner, it can cause problems and generate discontent, which weakens its reputation in the market.

223. The PTA considers that delays in announcements on changes to price of services can create problems on the relevant market. This applies particularly when retail departments of service provider with significant market power at the wholesale level are provided with the information in question ahead of their competitors.

7.2.3 Dominant market position of the company

7.2.3.1 General

224. In addition to the problems that stem from vertical integration one can identify problems that can result from Siminn's significant market power in the wholesale market for call origination. It is possible to identify three different manifestations of an undertaking's market power:

- Measures to obstruct access to the market
- Exploitive behaviour
- Inefficiency in production

⁴² See Competition Authority Decision no. 23/2002: Complaint from Halló!– Frjáls fjarskipti ehf. regarding Landssími Íslands hf. misuse of significant market power, see also Competition Authority Decision no. 39/2003 and the decision of the Competition Authority number 11/2006.

7.2.3.2 Measures to obstruct access to the market

225. This refers to competition problems wherein an undertaking with significant market power attempts to introduce new entry barriers against potential market entrants and/or maintain existing barriers.

226. An example of a measure designed to obstruct access to the market is raising the costs users incur in switching service providers through binding contractual terms. There are limits to the extent that one can specify binding conditions in terms of agreements at the retail level, see Paragraph 2 of Article 37 of the Electronic Communications Act no. 81/2003. On the other hand, agreements between wholesalers and retailers contain various provisions which make it difficult for the retailer to switch to another wholesaler.

227. Siminn has shown a tendency to obstruct the entry of new parties into the market. For example, when new companies attempted to enter the market with Internet telephone services in 2006, Siminn refused to port telephone numbers for the Atlassími Internet phone service and to include the nomadic number series in the relevant databases. In this manner Siminn delayed the entry of Atlassími into the market.

228. The PTA considers that the danger of actions of this nature is ever present on the relevant market while one company has a position as dominant as that of Siminn.

7.2.3.3 Exploitive behaviour

229. Exploitive behaviour is where a service provider, who is in a position where he does not have to take customers and competitors into account, charges an abnormally high price or uses price discrimination to profit in an abnormal manner.

230. The PTA considers that excessive pricing can be a serious competition problem on the market for call origination. If Siminn were obliged to provide access to its network for call origination while being free to price such access at will, the PTA considers it likely that Siminn would charge a price that was far higher than the underlying costs of providing this service. Excessive pricing for call origination would both limit the competitiveness of other service providers on analogous retail markets and would bring the company an abnormally high profit from these operations. Abnormally high profit can also encourage possible competition problems through cross-subsidy.

231. Siminn has tended to raise prices above what may be considered normal for a company operated in an efficient manner, see discussion on the Siminn cost analysis in the PTA decision number 15/2011, which will be explained later in this document.

7.2.3.4 Inefficiency in production

232. Competition problems of this type involve various sorts of inefficiency in production that can be traced to a lack of competition. The market in question is not subject to the influence that competition is considered to exert on production efficiency. Examples of this type of competition problem are insufficient investment, abnormally high costs/inefficiency, and poor quality.

233. On-net and off-net call origination services generally stem from the same source. If there is insufficient investment, abnormally high cost/inefficiency and/or poor quality, it can also be expected that this inefficiency in production will have the same negative effect on Siminn's retail operations as it does on the company's competitors in the retail market. This to some extent limits the risk of inefficiency. However, there are regions in the country where Siminn is the only service provider and there Siminn could relax its quality demands without significantly damaging its own retail operations. Siminn is burdened with a certain legacy of inefficiency because of older investments and has tried to pass on this inefficiency through pricing as has been stated previously. The PTA considers that because of Siminn's dominance there is a certain risk that inefficiency will create problems on the relevant market.

7.3 Competition problems in the market for call termination in fixed line networks (market 3)

7.3.1 General

234. The main competition problems in the market for call termination can be attributed to the fact that the operator of the network where termination takes place has a monopoly for call termination for the customers that are connected to his network. There are insurmountable technological entry barriers to individual termination markets and it is not foreseeable that this will change during the period covered by this analysis. As long as the CPP principle applies there will be major limitations to active competition.

235. The competition problems that the PTA has defined generally apply to all termination in fixed-line networks. Here below there is discussion on competition problems in the relevant market and it is considered appropriate to distinguish between Siminn and others who offer termination services as Siminn's position is quite different in that by far the largest share of termination is in Siminn's network.

236. Discussion on competition problems in this analysis is analogous to the discussion in the PTA analysis of the market from 2008 as no changes have occurred on the market since 2008 that could lead to a change or solution in the problems that have characterised the market. For competition problems on this market, reference is further made to the ERG (now BEREC) report on the imposition of obligations.⁴³

7.3.2 Refusal of access

237. All things being equal, operators that offer call termination should have a normal incentive to offer interconnection. Network utilisation increases with the number of network users, which indicates that those offering fixed-line connections wish to conclude interconnection agreements with others.

238. On the other hand, it is possible to imagine circumstances where it could be advantageous for a large service provider with many users to reject interconnection based on call termination. This can be quite important with regards to smaller service providers with

⁴³ Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework. Final Version May 2006. ERG (06) 33. The document can be seen here: http://erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

few users, and it would not have a marked effect on the quality of the larger company's telephone service even though users of the small service provider's network do not have the option of calling users connected to the large service provider. In this way, the large service provider could force small service providers out of the retail market. Rejection or delay in interconnection is a competition problem.

239. Service providers with a limited number of customers and capital are sometimes interested in concluding indirect interconnection agreements (so-called proxy agreements) at the outset instead of negotiating directly with all of the service providers offering call termination in the fixed-line network. Proxy connection refers to a third party's offering a service provider termination in another service provider's network. Therefore, it is actually possible to conclude an interconnection agreement with only one other undertaking. A proxy agreement can prove to be less expensive than a number of interconnection agreements or than the cost of direct interconnection. If an undertaking does not have the option of interconnection with other fixed-line networks via proxy service (transit service), this can function in the same way as refusal of access and can represent a competition problem.

240. If an undertaking which has no incentive to conclude interconnection agreements, obstructs the conclusion of such agreements by various means, or deliberately delays negotiations, the result is a situation much akin to refusal of access. It is typical that operators resort to such measures if they are required to comply with reasonable requests for interconnection but are not subjected to any defined time limits for negotiation. Delaying tactics can therefore be a competition problem even though an obligation to grant access is in effect.

7.3.3 Excessive pricing

241. Service providers with significant market power in markets for call termination on fixed-line networks have both the opportunity and the incentive to charge termination prices in excess of underlying costs. Under such circumstances, termination prices will be higher than they would be in a market characterised by effective competition.

242. Smaller service providers of call termination in fixed-line networks can respond to excessive pricing by Siminn by raising their own termination prices accordingly, and vice versa. Up till now only Siminn and Vodafone had been subject to price control. Other companies on the market charge prices for call termination that are significantly higher than those of Siminn and Vodafone. Before obligations were imposed on Vodafone, the company's call termination prices were 50% higher than those of Siminn. Siminn has endeavoured to raise its call termination prices significantly but because of the obligations that were in force the PTA has not authorised the price increase to the extent requested by Siminn.

243. Higher call termination charges from individual service providers have led to higher retail price for calls in to the networks in question. Today almost all Icelandic electronic communications company offer the same price for calls in all fixed line networks even though the call termination prices vary.

244. Experience has shown almost from the outset that after the introduction of competition to fixed line telephone services, companies that are not subject to price control have a tendency to raise their call termination prices excessively. It is the assessment of the PTA that

the situation still prevails where neither Siminn nor others can prevent those that offer termination services from charging prices that are both unfair and inefficient from a financial viewpoint. The PTA also considers that should it be decided that these service providers are free to price their service then this could lead to an abnormally high price. The PTA considers excessive pricing to be the most apparent competition problem originating in smaller companies on the market. In comparison with Siminn, Vodafone and foreign companies that were included in a comparative study for the PTA decision number 15/2011, the prices of Hringdu and Símafélagið are higher than those of other companies and are not in step with what one would expect from companies that operate call termination services in an efficient manner. The PTA considers high pricing to be a problem that puts competitors and consumers at a disadvantage. At the outset of competition in the fixed line telephone markets in Europe there were normally no objections raised when call termination prices of new entry companies were higher than those of market incumbents. Higher call termination prices were seen as assistance for the small players entering the market. Today the situation is no longer tolerated. First, more than 10 years have passed since the market was liberalised; second, experience has shown that asymmetrical termination fees are not the most advantageous way to promote effective competition in the markets. Reference is made here to the Common Position of ERG symmetrical call termination charges⁴⁴ and to the ESA Recommendation on termination rates⁴⁵ and to the corresponding Recommendation from the EU Commission⁴⁶ together with their Explanatory Note.⁴⁷

245. High termination prices are disadvantageous to competition for those service providers in the retail market for telephone services (on fixed and/or mobile networks) that do not offer call termination in the network concerned. As a result, the PTA considers that prices could become abnormally high if price controls are not in effect and that abnormally high prices could therefore be viewed as a potential competition problem in all call termination services.

7.3.4 Informal price fixing

246. Service providers that offer call termination and compete at the retail level can agree to charge termination prices that are to the advantage of both operators, which is actually informal price-fixing. The typical method used is to charge high reciprocal termination charges in circumstances under which termination prices are not monitored.

247. High reciprocal termination charges in the fixed-line network distort the competitive position among service providers offering fixed-line phone services based on carrier selection,

⁴⁴ ERG's Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates ERG (07) 83 final 080312.

⁴⁵ EFTA Surveillance Authority Recommendation of 13 April 2011 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EFTA States.

http://www.eftasurv.int/media/internal-market/ESAs-Recommendation-on-termination-rates.pdf?bcsi_scan_A7E1E556D7B2F94D=SP9V6znNsFp1+tO3LHnKgItGi8gFAAAA/sN9AA==&bcsi_scan_filename=ESAs-Recommendation-on-termination-rates.pdf

⁴⁶ Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU - C(2009) 3359 final.

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:124:0067:0074:EN:PDF>

⁴⁷ COMMISSION STAFF WORKING DOCUMENT accompanying the COMMISSION RECOMMENDATION on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU EXPLANATORY NOTE {C(2009) 3359 final} {SEC(2009) 599}

http://ec.europa.eu/information_society/policy/ecommm/doc/implementation_enforcement/eu_consultation_procedures/explanatory_note.pdf

those offering mobile phone services, and those offering international calling with termination in Iceland. As a result, informal price-fixing among those offering call terminations in the fixed-line network could constitute a competition problem.

248. Siminn has been required to charge cost-oriented termination fees since the fixed-line phone market was deregulated in 1998; therefore, price-fixing between Siminn and one or more other service providers has not been a real problem. Neither does it appear that informal price-fixing has taken place among other service providers than Siminn. Nonetheless, in the PTA's estimation, such a problem could arise if termination prices were not monitored.

7.3.5 Price discrimination

249. An operator that offers call termination can have the incentive to offer varying terms to different customers. For example, it is conceivable that a service provider wishes to charge a higher termination price to operators that offer him stiff competition in the retail market than to other service providers. Such an operator could also charge lower prices to related parties than to others.

250. When those that request termination are discriminated against in this manner, this can distort competition on the retail markets and can create a competition problem.

251. It is primarily possible to view price discrimination between on-net and off-net calls as a potential competition problem when the service provider has a proportionally large share of customers on the retail market. This is the case with Siminn. This type of price discrimination means that an undertaking charges a higher termination price for calls originating in other telephone networks than for calls originating in its own.⁴⁸ Under these circumstances these service providers would be forced to increase their retail prices in order to avoid distortion of the correct proportions/price pressure. Price discrimination of this kind can give Siminn's retail services a competitive advantage against other competitors on the retail market.

252. This potential competition problem thus becomes even larger as the difference between on-net and off-net call termination rates increases. Price discrimination between these two service categories is a potential competition problem.

7.3.6 Discrimination with respect to factors other than price

7.3.6.1 General

253. An undertaking with significant market power could have the incentive to discriminate in favour of its own services in the retail market at the expense of its competitors. Such discrimination could involve service elements, the quality of technological connections, service levels, information quality, etc. It is also possible that the party providing termination

⁴⁸ With the decision of the PTA number 13/2000, from 7 May, 2012, the PTA came to the conclusion that Siminn had breached the obligation for non-discrimination on the wholesale market for call termination in mobile phone networks (Market 7) by defining calls between customers of Siminn and Tal, as on net calls. In this manner, charges for call termination were not collected between these companies while at the same time Siminn collected maximum call termination charges from Vodafone and Nova. Siminn was given the option of correcting or repaying Vodafone and Nova the call termination charges it had collected since August 2010.

services will have the incentive to delay negotiations for interconnection and will make unreasonable demands as regards termination (e.g. collateral security, bundling of services, etc.). This type of discrimination can function as an entry barrier and can disrupt the competitive foundations in the retail market; therefore, it can be a potential competition problem.

254. In the PTA's estimation, this competition problem affects Siminn's call termination service in the fixed-line network more than that of other operators in the call termination market. The reason is that other operators that offer call termination have limited opportunities to discriminate because of Siminn's strong position, both as a dominant seller and as a customer in the termination market.

7.3.6.2 Unannounced changes in prices and products

255. Termination charges are generally a rather large portion of the retail price for fixed-line telephone calls. If Siminn raises its termination charges before the operators that purchase call origination from the company have a chance to adjust their retail prices accordingly, this could reduce these operators' profits temporarily.

256. It is also possible to change the content of a given service without this necessarily being reflected in the price. Changes in service can also lead to changes in retail products that should be announced with advance notice. If this is not done in a timely manner, it can cause problems and generate discontent, which weakens its reputation in the market.

257. The PTA considers that delays in announcements on changes to price of services can create problems on the relevant market. This applies particularly when retail departments of service providers with significant part market power at the wholesale level are provided with the information in question ahead of their competitors.

7.3.6.3 Cross subsidy

258. In the opinion of the PTA, it is important to consider competition problems related to Siminn's call termination in the fixed-line network in the context of the retail market for fixed-line phone services. The PTA is of the opinion that a competition problem exists if Siminn uses revenues from call termination to subsidise its own retail services. Such cross-subsidy could distort competition in the retail market for fixed-line phone services, which can prove detrimental in the campaign for a sustainable competitive environment. Cross-subsidy that involves other elements in Siminn's operations could also prove to be a competition problem; e.g. horizontal transfer of market power. Cross-subsidy is therefore anti-competitive, but it can also foster inefficient utilisation of capital.

7.4 Obligations currently in force

7.4.1 General

259. In 1998 when the monopoly on the electronic communications market was lifted a special operations licence was issued for Siminn. The licence specified obligations for the interconnection of fixed line phone networks, such as with respect to access, transparency,

non-discrimination, accounting separation, and price control. Electronic communications companies other than Siminn were not subject to specific obligations with respect to interconnection of fixed line phone networks with the exception that they were obliged to make an agreement on interconnection pursuant to Paragraph 1 Article 23 of the Electronic Communications Act no. 107/1999.⁴⁹

260. With the decision of the PTA from 4 December 2008, new obligations were imposed on Siminn for the markets for call origination and termination and obligations were imposed on Vodafone for the market for call termination.

7.4.2 Market obligations for call origination

261. The following obligations were imposed on Siminn for the call origination market:

Obligation to provide access

262. This obligation means that Siminn is obliged to accede to normal and fair requests of an electronic communications company for access to fixed line network and for services for call origination at wholesale level. Agreements must be completed without delay and Siminn must specifically justify with arguments any decision to refuse to make an agreement on access.

Obligation for non-discrimination

263. Siminn must practise non-discrimination both with respect to price and other factors, both for external operations and between internal operations and external operations. The dissemination of information from the relevant department should be in a comparable manner whether to third parties or to other departments within the company related parties.

Obligation for transparency

264. This obligation means inter alia the publication of a reference offer, terms and conditions for delivery and use, tariff and book-keeping information for call origination in fixed line systems. The reference offer shall be updated as necessary and it shall contain all information necessary for the service on offer. Should the Siminn reference offer not be considered adequate for the market, the PTA could prescribe amendments to the offer pursuant to Paragraph 2 Article 29 of the Electronic Communications Act. Siminn shall notify its counterparties and the PTA in a timely manner about all planned amendments to the reference offer. Siminn shall furthermore publish annual book-keeping information about the performance of wholesale fixed line network services of the previous year, in cooperation with the PTA.

Obligation for accounting separation

265. Such separation should constitute as a minimum that on the one hand wholesale and on the other hand retail fixed line telephone division should have their accounts separated from other operations. The Siminn wholesale prices and internal prices within the company should be transparent, inter alia to prevent unfair subsidies. Should Siminn's accounting separation not be satisfactory, the PTA reserves the right to submit demands at a later date for further separation. In its accounting, Siminn should separate income, expenditure, assets and capital for its fixed line phone network. Siminn should provide to the PTA on an annual basis with a breakdown of the operational accounts and balance sheet for wholesale and retail along

⁴⁹ A corresponding provision is now in Article 24 of the Electronic Communications Act number 81/2003.

with a statement of the division of indirect costs that were not possible to assign through comparison with other cost items.

Obligation on price control and cost accounting

266. Call origination in the Siminn fixed line systems shall be at a price based on costs, including normal returns on sunken capital. Siminn shall prepare a cost model for calculations, which uses historical costs as a reference for tariffs. As a reference the PTA would use the operations of analogous service that was operated in an efficient manner in accordance with its authorisation from the Electronic Communications Act. The PTA would annually evaluate, on the basis of the conclusions of the cost analysis in each instance and by referring to prices in other EEA states, whether it was more appropriate to apply the LRIC⁵⁰ method than to base calculations on historical costs when deciding tariffs. Siminn was not authorised to increase its prices given unchanged criteria.

267. Siminn shall maintain cost book-keeping for call origination. Siminn shall provide the PTA with a description of cost book-keeping for call origination in a fixed network and shall publish the main cost categories and the rules that are used for assigning cost. Siminn shall deliver a report to the PTA from an independent auditor showing that there is correspondence between the Siminn description to the PTA of how costs are split and the implementation in Siminn's cost book-keeping system.

7.4.3 Market obligations for call termination

268. The same obligations were imposed on Siminn for the call termination market, as were imposed for the call origination market.

269. Obligations were also imposed on Vodafone for this market and they are as follows:

Obligation to provide access

270. This obligation means that Vodafone is obliged to accede to normal and fair requests of an electronic communications company for access to fixed line network and for services for call origination at wholesale level. Agreements must be completed without delay and Vodafone must specifically justify with arguments any decision to refuse to make an agreement on access.

Obligation for non-discrimination

271. Vodafone must practice non-discrimination both with respect to price and other factors, both for external operations and between internal operations and external operations. The dissemination of information from the relevant department should be in a comparable manner whether to third parties or to other departments within the company related parties.

Obligation for transparency

272. Vodafone shall prepare and publish a tariff which shows all prices for termination of telephone calls in fixed line networks and of related services. In addition the company shall publish information on the location and technical specifications for interconnection points. All changes shall be notified in advance. Vodafone shall publish on an annual basis, book-keeping information on the performance of the previous year's fixed line telephone service operations.

⁵⁰ Long Run Incremental Cost.

Obligation for price control

273. Vodafone shall offer termination at a fair price. The Vodafone tariff should relate to the Siminn tariff such that termination rates should never be higher than the termination rates of Siminn, but they may be lower. Vodafone was granted a four-year glide path to reduce its termination charges to symmetry with those of Siminn. Should the conclusion of the Siminn cost analysis lead to changes in Siminn's prices, either higher or lower, Vodafone will adopt these changes.

7.5 The impact of existing obligations

274. Siminn had published a reference offer for interconnection in fixed line networks on the basis of the rules that applied before the coming into force of the PTA decision from 4 December, 2008. After the existing obligations were imposed, several changes had been made to the Siminn reference offer and the methodology used for price control has been reviewed.

275. With the PTA decision from 23 June, 2009 specific changes were endorsed to the Siminn reference offer. These were on the one hand changes to how amendments to the reference offer would be notified and on the other hand changes to the provisions for connection charges, leased lines, and the allocation of costs between connections.

276. In September 2009 Siminn submitted a cost analysis for call origination, termination and transit in fixed telephone networks, which was made in cooperation with a consultancy company in this field. For the cost analysis a cost model was made based on historical costs. The cost analysis involved an increase in wholesale income for call origination and termination up to 140%. The PTA reviewed the cost analysis and made observations on the analysis. In the decision of the PTA number 15/2011, dated 27 May, 2011 the PTA review of the Siminn cost analysis in question is discussed. The PTA did not consider it realistic that initial investment was based on historical costs from Siminn book-keeping as the company's documentation was not adequate. Furthermore the PTA made comments on unclear criteria with respect to the rule for allocation and to the weighting coefficients. The PTA also made comments on Siminn's required rate of return. Then the PTA considered that the comparison with call origination and termination prices in Europe indicated that Siminn's prices were too high. In the light of this, the PTA considered it necessary to find another method to decide interconnection charges.

277. After the PTA had informed Siminn of its position with regards to the initial cost analysis, Siminn revised the analysis and submitted new conclusions to the PTA. They allowed for an increase in charges up to just over 46%, where the wholesale price had not increased since the year 2000. The PTA made a comparison between these prices and prices elsewhere in Europe using the following criteria:

- Compared with an analogous competition market
- Compared with countries where companies with significant market power are subject to price control
- Reference countries use LRIC methodology
- Compared with the price for single transit
- Compared with the price of a three-minute call in November 2010

- Using the average exchange rate of the last quarter of 2010
- Compared with the average price from the five lowest countries

278. The conclusion from this comparison was that prices according to the latter Siminn cost analysis were in accordance with the best in Europe. With this change, Siminn's prices were the sixth lowest in Europe. The PTA decided that the Siminn tariff would use the company's latter cost analysis until the LRIC model was ready and that Siminn would review the analysis annually until that time. It was decided that in the future, there would be no distinction made between day, evening, night or weekend rates and that the minute rate for all calls would be ISK 0.63. A corresponding increase was authorised for Vodafone.

279. According to this, obligations have not lowered prices for call origination and termination on the market. On the other hand they have in all likelihood, prevented further increases. It has been shown that network operators always have the tendency to increase wholesale prices and in particular prices for termination. Siminn proposed to have its prices increased substantially on the basis of the cost analysis, which the company submitted in 2009. On the basis of the obligation for price control the PTA decided that the price would be decided in another manner that minimised the consideration of inefficiency and that returned a much lower result than the initial Siminn cost analysis have allowed for.

280. Retail prices had not dropped after obligations had been imposed on Siminn and Vodafone in December 2008. The price of a three-minute call had increased by about 80% during the period December 2008 to May 2012.⁵¹ The consumer price index rose during the same period by 20% and so the increase in retail prices is significantly higher than the price level during the period.

281. There are now seven companies operating on the fixed line telephone network market. Of these companies five operate some kind of fixed network, one company resells fixed line telephone services and one company only sells international telephone calls. This is something of an increase from before. Four of these companies have however a very low market shares and are thus not providing the larger operators with much competition. In the year 2011 the combined market share of these companies was 3%, measured by number of minutes.

282. It is the opinion of the PTA that the obligations that were imposed in 2008 have had the effect of combating excessive increases in wholesale prices. Furthermore the obligations have helped the entry of new parties to the market.

283. There is however a long way to go before active competition will exist on the fixed line telephone wholesale market. It is therefore necessary to maintain obligations on the market. Furthermore there is a need to react to the high termination charges of those parties to the market today that are not subject to obligations. Further to this it is necessary to ensure the interests of resale parties that own no network and other parties that own only limited infrastructure.

⁵¹ The reference here is the Siminn base subscription and a three-minute telephone call. Changes according to time measurements and special offers have not been assessed.

7.6 Proposals for obligations

284. On the basis of the market analysis the PTA has come to the conclusion that it is appropriate to maintain obligations on Siminn on the market for call origination. On the market for call termination the PTA considers that obligations need to be maintained on Siminn and Vodafone and in addition there is a need to impose obligations on other companies that offer termination in their fixed line telephone networks. The PTA intends to maintain the obligations that were imposed in 2008 with little or no changes with the exception of the obligation for access, which will be more detailed than it was in the previous analysis, and price control where there will be changed emphases. Because of a changed approach to price control the PTA plans to withdraw the obligation for cost accounting. In this chapter the content of these obligations will be presented in more detail.

7.6.1 Market 2: Call origination on the public telephone network provided at a fixed location.

7.6.1.1 Obligation to provide access

285. According to Paragraph 1 of Article 28 of the Electronic Communications Act the PTA may instruct 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, item g of the same Article states that it is permissible to require that electronic communications undertakings interconnect networks or network facilities. Further to this it is stated in item b of the said Article that it can be demanded that such parties offer specified services on a wholesale basis for resale by third parties and item h prescribes access for virtual networks.

286. In imposing an obligation to grant access, it is necessary to consider whether the access in question encourages investments in the network and promotes innovation, efficiency, and sustainable competition. In Paragraph 3 of Article 28 of the Electronic Communications Act it is stated that when making a decision to impose obligations pursuant to Paragraph 1, the PTA shall take into account whether it is:

- a. technically and financially realistic to use or install competing facilities in view of market developments and the nature and type of interconnection and access involved;
- b. feasible to provide the access proposed;
- c. justifiable, in view of the original investment by the owner of the facility and the risk taken in making the investment;
- d. to the advantage of competition in the longer term;
- e. inappropriate, in view of intellectual property rights;
- f. conducive to increasing the supply of services.

287. The PTA has assessed whether the access requirement is technologically and financially realistic, and whether it would be realistic for a competitor to set up his own infrastructure in competition with Siminn, considering market developments and the nature of the access in question. The PTA considers it quite feasible for Siminn to grant the access that is proposed; furthermore it considers it justifiable with respect to Siminn's initial investment. The PTA does not consider it realistic for new parties to the market to acquire facilities comparable to those that Siminn has developed over a period of decades and thus considers it

necessary to rule on access in this market. New service providers are afforded space to develop their networks at a feasible speed. The PTA further considers it important, because of the small size of the Icelandic fixed line telephone network, that Siminn offer resale access to parties that do not have any fixed line telephone infrastructure or access to parties that have limited infrastructure, in addition to traditional interconnection. The PTA considers obligations to be in the interests of competition in the long-term and that they will encourage an increase in service offers.

288. There is no record of electronic communication companies having been denied access to reciprocal interconnection or resale access. On the other hand, there are recorded examples that the negotiation process in making interconnection agreements has been too lengthy and that negotiations have been difficult, but the reason seems mainly to be inadequate flow of information. The PTA considers it important that there are no delays in the making of interconnection agreements, and that those companies involved do not excuse themselves by referring to technical barriers. The PTA will monitor the process in order to see whether interconnection agreements or other access agreements to Siminn's fixed line network system are being completed within fair time limits and whether normal technical requirements are being made. The PTA intends to impose obligations on Siminn to the effect that the making of interconnection agreements or other access agreements to the companies' fixed line network are completed, no later than three months from the time that the request for an agreement was made. Should an agreement not be reached between the parties then either one can request that the PTA make a decision on whether an agreement should be made on interconnection or access, and on the conditions of such agreements.

289. Siminn has been designated as a company with significant market power on the market for call origination in fixed line telephone systems and is thus obliged to comply with reasonable requests for interconnection or access, including call origination. The PTA intends to impose obligations on Siminn to complete agreements on call origination, including agreements on resale access, without inappropriate delays in order to limit the possibility of deliberate delays in connection with interconnection or access requests. Siminn is obliged to record the time taken by the negotiations, progress in the negotiations and the reasons for delays should there be any. This documentation shall be available for counterparties and for the PTA should it be requested. Should access be denied then Siminn shall provide the applicant with a documented and reasoned rejection of the request. Arguments must contain all the information necessary for an assessment of the basis for the rejection.

290. With the authority in Article 28 of the Electronic Communications Act, the PTA intends to maintain obligations on Siminn to accede to normal and reasonable requests for access to the network for service for call origination in fixed line networks at wholesale level. The PTA considers it appropriate to reiterate that the obligation for access also covers resale access, should there be a demand for such a form of access. Should Siminn reject or not reply to within 14 days, a request for access, then the company should provide the applicant with a written reason supported with arguments for the rejection or delay. The completion of agreements for access shall in all instances be completed within three months from Siminn's receipt of the request with the required information according to the reference offer.

7.6.1.2 Obligation for non-discrimination

291. According to Article 30 of the Electronic Communications Act, the PTA can impose obligations on electronic communications companies designated with significant market

power to practice non-discrimination when agreeing to interconnection or access. Such obligations should particularly ensure that electronic communications companies make the same conditions to other companies that provide electronic communications services for the same kind of transactions and should provide service and information with the same conditions and the same quality as it provides to its own service department, subsidiaries or collaborators.

292. Siminn's significant market power in call origination and the lack of possible substitute service can lead to the company discriminating against parties that require the service, should the obligation for non-discrimination not be imposed. The company could, in particular have the incentive to sell third parties call origination at a higher price than it sells it to its own departments. Such a practice would distort competition.

293. Even where companies have been assured interconnection at a cost-analysed price, a company with significant market power could price its internal sales at a lower price or try to discriminate using other factors than price and thus increase competitors' costs in order to remove him from the market. This could be in the form of poor provision of information, varying quality in services and unfair conditions in agreements. Fair, proportionate and justifiable conditions for access, including price, are basic issues when striving to strengthen competition. In the opinion of the PTA the obligation for non-discrimination is admirably suited to tackle the problems that arise in connection with discrimination, both with respect to price and other factors. The obligation for non-discrimination does not mean that all companies are subject to exactly the same conditions but rather that all difference in conditions is based on objective criteria.

294. Despite the fact that there is an obligation to maintain parity between internal and external sales this does not exclude the possibility that the wholesale price of on-net telephone calls could be lower than the sum of the prices for origination and termination, if the cost of on-net calls is demonstrably lower.

295. With the authority granted by Article 30 of the Electronic Communications Act, the PTA will maintain the obligation on Siminn for non-discrimination, both with respect to price and other factors, both towards external operations and between internal operations and external operations. The obligation for non-discrimination applies to interconnection, and also to resale access to the Siminn fixed line telephone system. The dissemination of information from the relevant department should be in a comparable manner whether to third parties or to other departments within the company related parties. The treatment of information gained by Siminn in making agreements for access should be in accordance with Article 26 of the Electronic Communications Act.

7.6.1.3 Obligation for transparency

296. According to Paragraph 1 of Article 29 of the Electronic Communications Act, the PTA can oblige electronic communications companies with significant market power to publish specific information in order to increase transparency of interconnection or access to the facilities of an electronic communications company, for example book-keeping information, technical information, implication on the characteristics of networks, terms and conditions for delivery and for use and tariffs. It is authorised to make an exemption to the publication of information if an electronic communications company can show that it concerns important financial or business interests that it is fair and normal to keep

confidential.

297. In Paragraph 2 of Article 29 of the same Act it states that when an electronic communications company is obliged to practise non-discrimination then the PTA can demand that it publishes a reference offer that contains a breakdown description of interconnection or access, along with terms and conditions, including tariffs. The PTA can prescribe amendments to the reference offer and is authorised to impose rules on the content of such offers.

298. Conditions for access to a network and service are extremely important to new service providers and can have a vital impact on their possibilities to gain market share. The competitive position of such parties is clearly in danger if they have to subject themselves to conditions that discriminate. In addition to this it facilitates the entry of new parties into the market if potential service providers can acquaint themselves in advance with the conditions on offer for access to service that they must purchase. The same applies to the basis for pricing and other conditions. This is particularly important on this market as Siminn is dominant both with respect to market share and coverage of their fixed line telephone network.

299. If reference offer is published then all parties on the market have the possibility of acquainting themselves with what is on offer and this ensures that a company is not obliged to pay for service and equipment which it does not need. The PTA considers that the issue of a reference offer is a necessary prerequisite for other service providers to be able to enter the market.

300. For the obligation for non-discrimination to be effective in reality, it is necessary to impose the obligation for transparency on Siminn. This is done to prevent attempts to discriminate between parties on the market.

301. On the basis of the obligation for transparency it is possible to oblige Siminn to publish a reference offer. The PTA considers it necessary for Siminn to publish a reference offer for call origination in fixed line telephone networks. The reference offer for call origination may be part of the same offer for access in the form of call termination and other services in the fixed line system (see the reference offer currently in force on interconnection). The more detailed the reference offer the easier it is to determine whether non-discrimination is being practised. Should Siminn make an agreement with an electronic communications company for access to its fixed line network, and then Siminn shall publish an analogous reference offer for such access, no later than three months after the signing of the agreement. Pursuant to Paragraph 2 of Article 29 of the Electronic Communications Act, the PTA is authorised to prescribe amendments to such a reference offer.

302. Publication is deemed adequate if Siminn publishes the reference offer on its website. The reference offer, shall be divided into independent sections with appropriate terms and conditions, according to the needs of the market such that the counterparty is not obliged to agree to purchase of service, or other items for which he has no need. The reference offer shall be updated as necessary and it shall contain all information necessary for the service on offer. The published reference offer, shall, as a minimum contain information on the following:

- Interconnection service or other access service on offer
- Call origination price
- The unit price and the service represented by each unit
- All discounts and criteria for discounts
- Methods for calculating offers that are not at fixed prices
- Interconnection points
- Geographical areas where services are rendered
- All significant limitations on delivery
- All technological and physical characteristics, including interfaces used on interconnection points as well as the standards in use
- Quality level
- Customer maintenance
- The obligations to observe confidentiality between parties, confidentiality of data and plans, and protection of personal information
- Guarantees and payment
- Unforeseen events in special circumstances
- Security and tapping
- Term of agreement and termination of agreement
- Treatment of disputes
- Terms and conditions for fair compensation when it is not possible to provide the agreed quality level
- Other general contractual terms and conditions

303. In other respects than those set forth in this section, the reference offer shall be in accordance with the Rules concerning Reference offers for Interconnection, no. 94/2002 as appropriate.

304. Should the Siminn reference offer not be considered adequate for the market, the PTA can prescribe amendments to the offer pursuant to Paragraph 2 Article 29 of the Electronic Communications Act. Given the problems that have emerged in previous contractual negotiations with Siminn, the PTA considers it appropriate to stipulate that Siminn may not demand a bank guarantee from electronic communications undertakings without special permission from the PTA.

305. The PTA imposes the obligation on Siminn to notify other companies in advance about all amendments to the reference offer with at least three months' notice. It is however authorised to notify changes to price no later than two months before the changes come into effect. Changes to interconnection areas and interconnection points shall be notified with six months' notice

306. All electronic communications companies that make agreements on interconnection or other access forms, including call origination in fixed line networks, are obliged to send the PTA a copy of such agreements without delay and no later than one week after the signing, pursuant to Paragraph 6 Article 24 of the Electronic Communications Act.

307. With the authorisation in Article 29 of the Electronic Communications Act the PTA intends to maintain the obligation on Siminn for transparency and the publication of a reference offer for interconnection of fixed line networks, terms and conditions for delivery and use, along with tariffs for wholesale fixed line telephone services. Siminn is further

obliged to notify the PTA of all changes to relevant contracts or to the reference offer. Changes to the reference offer on interconnection do not come into force before they have been endorsed by the PTA. Should Siminn make an agreement with an electronic communications company for access to its fixed line network then Siminn shall publish an analogous reference offer for such access, no later than three months after the signing of the agreement. In notifications on planned changes to the reference offer or to the interconnection agreement it shall be clearly stated where in the agreement or in the reference offer changes had been made and there shall be a description of the nature of the changes. The PTA considers it to be no longer necessary for Siminn to publish book-keeping information related to this market and intends to withdraw this obligation.

7.6.1.4 Obligation for accounting separation

308. For the obligation for non-discrimination to be effective it is necessary to impose the obligation for accounting separation on Siminn in order to make it possible to confirm that Siminn has fulfilled the requirements of selling other service providers its services at the same price as to its own retail department.

309. In Regulation number 564/2011 on book-keeping and cost analysis in the operations of electronic communications companies, there is an explanation of the purpose of accounting separation and instructions on how it should be implemented. The purposes is inter alia to make it possible to see income, costs and sunk capital for varying operational units and to be able to show that the same conditions apply to services provided to other companies and to services supplied to other departments of the electronic communications company in question.

310. Accounting separation supports the discovery of possible failures on the market and reveals whether non-discrimination is practised on the market or not. Obligations on accounting separation increases transparency because they cast light both on wholesale prices and on internal pricing of services within the company itself. The PTA also has the possibility to investigate whether the obligations for non-discrimination are fulfilled and in addition to this can tackle problems related to price competition. The PTA considers it necessary to maintain obligations on the accounting separation in order to make it easier for the Administration to investigate whether rules are being complied with and it considers this to be a prerequisite for effective obligations on transparency and non-discrimination.

311. With the authority in Article 31 of the Electronic Communications Act the PTA maintains obligations on Siminn for accounting separation. Such separation should constitute as a minimum that on the one hand wholesale and on the other hand the retail fixed line telephone divisions should have their accounts separated from other operations. The Siminn wholesale prices and internal prices within the company should be transparent, inter alia to prevent unjustified subsidies. Should Siminn's accounting separation not be satisfactory, the PTA reserves the right to submit demands at a later date for further separation.

312. In its accounting, Siminn should separate income, expenditure, assets and capital for its fixed line phone network. Siminn should provide to the PTA on an annual basis with a breakdown of the operational accounts and balance sheet for wholesale and retail along with a statement of the allocation of indirect costs that were not possible to assign through comparison with other cost items. The above specified statement should have reached the administration no later than five months after the end of the operational year.

7.6.1.5 Obligation for price control

313. According to Article 32 of the Electronic Communications Act, the PTA may, when market analysis indicates that a lack of active competition results in a company with significant market power demanding excessively high fees or that there is an abnormally small difference in wholesale and retail prices, impose obligations on an electronic communications company for a cost related tariff and obligations for cost accounting for certain types of interconnection or access. As was stated in the discussion on competition problems, the PTA considers that Siminn could have an incentive to demand excessively high prices if there is no price control on the company's tariff.

314. With reference to Article 32 of the Electronic Communications Act, the PTA intends to impose on Siminn an obligation concerning price controls. The obligation, will however be elaborated in a manner other than was done in the PTA decision from 4 December, 2008.

315. In the decision of the PTA from 4 December, 2008 it was prescribed that the price for call origination and termination in fixed line networks should be according to cost analysis based on historical costs. In the decision of the PTA number 15/2011 the PTA decided a more detailed elaboration of the structure of price control, where it was decided to use the Siminn cost analysis that was submitted on 19 April, 2011, i.e. a cost analysis based in part on historical costs. Siminn was to make an annual review of the above specified cost analysis. The conclusion of the Siminn cost analysis showed that the origination price was ISK 0.63 per minute and the connection price ISK 0.62 for each telephone call. The conclusions of the review of the cost analysis in each instance were to be subject to approval by the PTA. This was the sixth lowest price for origination among the 30 countries in the EEA in April 2011.⁵² Given the available price decisions in July 2012 the above specified origination prices are among the lowest in the EEA.⁵³ The Siminn cost analysis also showed that the cost of on-net calls is lower compared to the cost of off-net calls.⁵⁴

316. The PTA considers that cost analysis based on historical costs, as the existing origination prices are based on, is not a suitable long-term solution for determining the costs of an efficiently operated company on the fixed line telephony market. Historical costs often include a significant level of inefficiency. Equipment registered in the company's books with a long history of operations can be largely obsolete or at least less efficient than equipment based on the newest technology. There is a danger that with fixed line telephone services that the networks of the former monopoly holder were developed with unnecessarily large capacity given circumstances on the market today. In addition to this, all figures for costs are for past years, while the pricing that needs to be found has to apply for the future.

317. The PTA considers the prices for origination should relate to costs incurred in an efficiently designed electronic communications network and that, for this reason, the prices should be symmetrical in all companies. When analysing costs for call origination the PTA considers it appropriate to use the Long-Run Average Incremental Cost method⁵⁵, i.e. current

⁵² The comparison relates to the calculated price for 1 minute of a three-minute call through an exchange (*single transit*).

⁵³ Cullen International, July 2012.

⁵⁴ In the Siminn cost analysis, the cost for on-net calls was calculated lower when compared with the cost for origination and termination of off-net calls.

⁵⁵ Long-Run Average Incremental Cost (LRIC) is the cost that is added or is saved when a specific service or operation is added or discontinued, on the assumption that all costs are variable.

cost bottom-up LRIC model (BU-LRIC).⁵⁶ One can compare the bottom-up model with the top-down model for adjustments. One should use an efficiently operated network as a reference and this should include the most efficient technical solutions on offer during the period of validity of the Decision. This means that one should allow for next generation network (NGN) in the core part of the network.

318. In Chapter 7.6.2.5 here below there is discussion on planned obligations for price control for call termination and there it is stated that the PTA intends to follow the ESA Recommendation with respect to termination charges.⁵⁷ The PTA considers that the same arguments presented there apply to a large extent to price control for call origination. On the other hand, the PTA considers that the BU-LRIC method with what is called the pure LRIC approach is not as appropriate for the pricing of call origination as it is for the pricing of call termination that goes through interconnection between networks of electronic communications companies. The main reason is that the network operator that provides wholesale services, for call origination, e.g. for fixed pre-selection or resale, has with such an approach no opportunity to collect a share in business overhead costs related to the service in question. It can neither collect this from its termination service (using “pure” LRIC approach) nor can it transfer costs to the user that calls, as the network operator has no business relationship with that user. It therefore has to be possible at the wholesale level for the network operator to recover the above specified share in costs from the service provider (resale) that uses his wholesale services. With the above in mind the PTA considers the BU-LRIC model, without “pure” approach, to be most suited to calculating call origination prices in fixed line networks.

319. The PTA considers that because of the high cost of implementing the current cost BU-LRIC cost model that it is not appropriate at this point in time to adopt such a methodology on this market in this country. This could entail unnecessarily high costs for the PTA and for the relevant electronic communications companies. The Administration is very small in a European context and for this reason its budget is much more limited than is normally the case. Experience in the EEA has shown that the cost in making a BU-LRIC model is in the order of ISK tens of millions for each model and for each update. It is not considered right at this stage to make this requirement as the increase in cost would in all likelihood be eventually borne by consumers in the form of higher rates. Instead of this, the PTA plans to prescribe the use of benchmarking, which is based on BU-LRIC cost prices, when deciding call origination prices.

320. According to Paragraph 4 of Article 32 of the Electronic Communications Act no. 81/2003 the PTA can when calculating costs use as a reference the operation of analogous service that is considered efficiently run. It can also take into account tariffs in analogous competition markets and it may use cost analysis methodologies that are not related to methodologies employed by an electronic communications company. When selecting analogous competition markets the PTA considers it most appropriate to use as a reference the electronic communications markets in the EEA, where there are 30 states, including Iceland. Regulatory bodies in the EEA monitor tariffs of companies with significant market power, each in its own country, and prices are often decided on the basis of cost analysis. When

⁵⁶ One speaks of a "bottom-up" LRIC (BU-LRIC) in the case of a cost model for calculating the price of service on the basis of costs incurred in an efficiently designed electronic communications network in the relevant electronic communications market.

⁵⁷EFTA Surveillance Authority Recommendation of 13 April 2011 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EFTA States.

choosing countries for comparison and for the calculation of call origination in fixed networks when benchmarking is used, the PTA shall apply the following main criteria:

- Reference should be made to those EEA states where the origination rates of companies with market dominance on the markets in question are subject to monitoring of tariff by NRA of the state in question, on the basis of cost analysis.
- Comparison of prices shall be based on conclusions according to calculations based on a BU-LRIC model⁵⁸ available at the time when the price comparison is made in each instance.
- Comparison shall be made with the price for single transit.
- The reference shall be the price per minute of a three-minute call.⁵⁹
- Comparison shall be made using the average exchange rate in the relevant quarter.⁶⁰
- The resulting price shall not be higher than the arithmetic average in those countries that fulfil the above conditions during the period of reference.

321. During the period of validity of the Decision the PTA will regularly repeat benchmarking using the above criteria and will decide Siminn's maximum call origination charge effective as from 1 January each year, in accordance with the conclusions of the benchmarking. The PTA will however in the first instance decide the maximum call origination charge using the above criteria with effect as from 1 July, 2013, and then annually as from 1 January, 2014, or at the same time as the charges for call termination on market 3 will be decided on the basis of benchmarking. Generally all the states fulfilling the above criteria will be used in the benchmarking. In the opinion of the PTA it is, however, necessary to have a minimum of five comparison countries as the basis for a decision on price using benchmarking. The PTA will publish the conclusions of the benchmarking no later than 1 November each year (for prices that will apply as from 1 January next year), subsequent to national consultation and consultation with ESA. The first benchmarking shall, however, be completed no later than 1 May, 2013, or at the same time as the benchmarking for call termination on market 3 will be completed.

322. Siminn rates for call origination according to the reviewed cost analysis, dated 19 April, 2011, which was endorsed with the PTA decision number 15/2011, are now ISK 0.63 per minute and ISK 0.62 connection charge for each call. These prices shall be the maximum for Siminn until the price that is decided with benchmarking comes into force.

7.6.1.6 Cost accounting

323. As the PTA intends to apply benchmarking as the method for deciding Siminn prices for call origination and to discontinue cost analysis based on historical costs, there will no longer be a need for any particular cost accounting on this market. The PTA therefore intends to withdraw the cost accounting obligation currently imposed on Siminn on the market for call origination in public telephone networks provided at a fixed location.

⁵⁸ This could be current cost bottom-up LRIC, LRIC+, LRAIC or LRAIC+ model.

⁵⁹ A 3-minute average call duration has been assumed, calculated according to the following formula: average minute price for call origination = call setup charge/3 + per minute charge.

⁶⁰ In this process the PTA shall apply the BEREC implementation in its regular benchmarking.

7.6.1.7 Assessment of the effects of planned obligations

324. In accordance with the principle of proportionality, it is necessary to assess whether the burdensome impact of the obligations that the PTA plans to impose are proportionate in the light of the objectives. The PTA considers that the obligations are conducive to achieving the objectives of the Electronic Communications Act number 81/2003 on active competition and efficient electronic communications. The need for each individual obligation is discussed in the relevant chapters here above, and reference is made to this discussion.

325. The obligations that the PTA intends to maintain on Siminn are as a whole quite burdensome for the company. On the other hand, the PTA considers that they are in accordance with proportionality and that they are not a greater burden than is necessary. The obligations are to a large extent similar to the obligations that have been in force on the relevant markets since the last market analysis in 2008. No new obligations have been added while certain components of the obligations that were in force have been withdrawn. If Siminn makes an agreement for access to its fixed line network, including resale access, the company needs to publish an appropriate reference offer.

326. The obligation for access is something of a burden on Siminn but it is an essential prerequisite for active competition on the fixed line telephone markets at wholesale and retail levels. It is not possible to solve the competition problems described here above in any other way than by imposing the obligation for access. One must keep in mind that Siminn receives normal recompense for access and the obligation can lead to more efficient use of the equipment in which Siminn has invested. Siminn has installed the necessary facilities and services to be able to provide the service prescribed. It is thus not significantly burdensome to continue to provide the service as before.

327. The PTA considers the obligation for non-discrimination to be not particularly burdensome as it is a reasonable demand of a company like Siminn, which has significant market power in a great number of the sub-markets in electronic communications and which is in addition part of the Skipti Group.

328. The obligation for transparency, inter alia the publishing of reference offer, represents a certain inconvenience for Siminn. One must however keep in mind that Siminn has already published such a reference offer for interconnection and now only needs to update it in accordance with the requirements presented here, if it has not already fulfilled the requirements in question. Should Siminn make an agreement with an electronic communications company on resale access, then the company must publish an analogous reference offer. This should not require much work from Siminn as the reference offer is analogous to the access agreement that Siminn would then have made. The burden that Siminn has to bear from the obligations is not excessive if one takes into account how necessary the obligations are to strengthen competition.

329. The PTA considers that the obligation for accounting separation is not a burdensome, given its purpose, as it is a normal part of company operations today to separate costs for production/operations of varying products or services sold by the company.

330. The obligation for price control is burdensome to the extent that Siminn cannot charge any price it pleases for access to its networks. The obligation however ensures that recompense is normal, given that the service is operated in an efficient manner. As the

obligation is now elaborated, Siminn no longer has to perform an expensive cost analysis of services and nor does it need to make special cost accounting. The PTA will calculate the price of access using benchmarking. This means that the cost for Siminn for implementing the obligation is next to nothing.

331. The obligations will not inhibit the development of the fixed line network as the pricing of call origination will be based on the costs of companies that are operated in an efficient manner and normal return on investment is assumed. Price control should not inhibit willingness to invest in the long-term.

332. In the opinion of the PTA the above specified obligations are reasonable and necessary to support active competition and should not be considered unnecessarily burdensome. The PTA considers the obligations to be in the interests of competition in the long-term and that they will encourage an increase in service offers on the market for fixed network services.

7.6.2 Market 3: Call termination on the public telephone network provided at a fixed location.

7.6.2.1 Obligation to provide access

333. As was described in Chapter 7.6.1.1. the PTA is authorised pursuant to Paragraph 1 of Article 28 of the Electronic Communications Act to impose obligations on access on companies with significant market power on the fulfilment of specific conditions.

334. The PTA has assessed whether the access requirement is technologically and financially realistic, and whether it would be realistic for a competitor to set up his own infrastructure in competition with Siminn, considering market developments and the nature of the access in question. Given current technology it is impossible to install one's own facilities for termination in the network of another company. The PTA considers it relatively easy for all electronic communications companies that operate fixed line networks for telephone services to provide access for call termination in their networks, and that this is reasonable with a view to the initial investment. The PTA considers obligations to be in the interests of competition in the long-term and that they will encourage an increase in service offers.

335. There is no record of electronic communication companies having been denied access to reciprocal interconnection or resale access. On the other hand, there are recorded examples that the negotiation process in making interconnection agreements has been too lengthy and that negotiations have been difficult, but the reason seems mainly to be inadequate flow of information. The PTA considers it important that there are no delays in the making of interconnection agreements, and that those companies involved do not excuse themselves by referring to technical barriers. The PTA will monitor the process in order to see whether interconnection agreements or other access agreements to Siminn's fixed line network system are being completed within fair time limits and whether normal technical requirements are being made. The PTA intends to maintain obligations on Siminn and Vodafone and to impose at the same time analogous obligations for access on Símafélagið, Nova and Hringdu to the effect interconnection agreements are completed, no later than three months from the request being received in order to prevent circumstances were new electronic communications companies are faced with barriers in the form of delays on agreements for interconnection. Should an agreement not be reached between the parties then either one can request that the

PTA make a decision on whether an agreement should be made on interconnection or access, and on the conditions of such agreements.

336. Siminn, Vodafone, Símafélagið, Nova and Hringdu will be obliged to record the time taken by the negotiations, progress in the negotiations and the reasons for delays should there be any. This documentation shall be available for counterparties and for the PTA should it be requested. Should access be denied then the company shall provide the applicant with a documented and reasoned rejection of the request. Arguments must contain all the information necessary for an assessment of the basis for the rejection.

337. With the authority in Article 28 of the Electronic Communications Act, the PTA intends to maintain obligations on Siminn and Vodafone and to impose analogous obligations on Símafélagið, Nova and Hringdu to accede to normal and fair requests for access to the networks and services for call termination in fixed line networks at wholesale level. If a request for interconnection is rejected or not answered within 14 days then the company should provide the applicant with a written reason supported with arguments for the rejection or delay. The completion of agreements for access shall in all instances be completed within three months from receipt of the request.

7.6.2.2 Obligation for non-discrimination

338. According to Article 30 of the Electronic Communications Act, the PTA can impose obligations on electronic communications companies designated with significant market power to practice non-discrimination when agreeing to interconnection or access. Such obligations should particularly ensure that electronic communications companies make the same conditions to other companies that provide electronic communications services for the same kind of transactions and should provide service and information with the same conditions and the same quality as it provides to its own service department, subsidiaries or collaborators.

339. Significant market power in call termination and the lack of possible substitute service can lead to the company discriminating against parties that require the service, should the obligation for non-discrimination not be imposed. The company could, in particular, have the incentive to sell third parties call origination at a higher price than it sells it to its own departments. Such a practice would distort competition. As by far the largest part of termination takes place in Siminn networks, a distortion of competition resulting from discrimination by Siminn could create greater disruption than analogous behaviour by smaller companies. The PTA however considers that all discrimination on this market could result in disruption of competition to some degree, and could damage consumers' interests.

340. Even where companies have been assured interconnection at a cost-analysed price, a company with significant market power could price its internal sales at a lower price or try to discriminate using other factors than price and thus increase competitors' costs in order to remove him from the market. This could be in the form of poor provision of information, varying quality in services and unfair conditions in agreements. Fair, proportionate and justifiable conditions for access, including price, are basic issues when striving to strengthen competition. In the opinion of the PTA the obligation for non-discrimination is admirably suited to tackle the problems that arise in connection with discrimination, both with respect to price and other factors. The obligation for non-discrimination does not mean that all companies are subject to exactly the same conditions but rather that all difference in

conditions is based on objective criteria.

341. Despite the fact that there is an obligation to maintain parity between internal and external sales this does not exclude the possibility that the wholesale price of internal telephone calls could be lower than the sum of the prices for origination and termination, if the cost of internal calls is demonstrably lower.

342. With the authority granted by Article 30 of the Electronic Communications Act, the PTA will maintain the obligation on Siminn and Vodafone and impose an analogous obligation on Símafélagið, Nova and Hringdu for non-discrimination, both with respect to price and other factors, both towards external operations and between internal operations and external operations. The dissemination of information from the relevant department should be in a comparable manner whether to third parties or to other departments within the company related parties. The treatment of information gained by the companies in making agreements for access should be in accordance with Article 26 of the Electronic Communications Act.

7.6.2.3 Obligation for transparency

343. According to Paragraph 1 of Article 29 of the Electronic Communications Act, the PTA can oblige electronic communications companies with significant market power to publish specific information in order to increase transparency of interconnection or access to the facilities of an electronic communications company, for example book-keeping information, technical information, implication on the characteristics of networks, terms and conditions for delivery and for use and tariffs. It is authorised to make an exemption to the publication of information if an electronic communications company can show that it concerns important financial or business interests that it is fair and normal to keep confidential.

344. In Paragraph 2 of Article 29 of the same Act it states that when an electronic communications company is obliged to practice non-discrimination then the PTA can demand that it publishes a reference offer that contains a breakdown description of interconnection or access, along with terms and conditions, including tariffs. The PTA can prescribe amendments to the reference offer and is authorised to impose rules on the content of such offers.

345. Conditions for access to a network and service are extremely important to new service providers and can have a vital impact on their possibilities to gain market share. The competitive position of such parties is clearly in danger if they have to subject themselves to conditions that discriminate. In addition to this it facilitates the entry of new parties into the market if potential service providers can acquaint themselves in advance with the conditions on offer for access to service that they must purchase. The same applies to the basis for pricing and other conditions.

346. If a reference offer is published then all parties on the market have the possibility of acquainting themselves with what is on offer and this ensures that a company is not obliged to pay for service and equipment which it does not need. The PTA considers that the issue of a reference offer is a necessary prerequisite for other service providers to be able to enter the market.

347. As by far the largest part of termination takes place in Siminn networks the PTA

considers it necessary that Siminn publish a reference offer for termination in fixed line telephone networks. The reference offer for call origination may be part of the same offer for access in the form of call termination and other services in the fixed line system (see the reference offer currently in force on interconnection). The more detailed the reference offer the easier it is to determine whether non-discrimination is being practised.

348. Publication is deemed adequate if Siminn publishes the reference offer on its website. The reference offer shall be divided into independent sections with appropriate terms and conditions, according to the needs of the market such that the counterparty is not obliged to agree to purchase of service, or other items for which it has no need. The reference offer shall be updated as necessary and it shall contain all information necessary for the service on offer. The published reference offer, shall, as a minimum contain information on the following:

- Interconnection service on offer
- Call termination price
- The unit price and the service represented by each unit
- All discounts and criteria for discounts
- Methods for calculating offers that are not at fixed prices
- Interconnection points
- Geographical areas where services are rendered
- All significant limitations on delivery
- All technological and physical characteristics, including interfaces used on interconnection points as well as the standards in use
- Quality level
- Customer maintenance
- The obligations to observe confidentiality between parties, confidentiality of data and plans, and protection of personal information
- Guarantees and payment
- Unforeseen events in special circumstances
- Security and phone-tapping
- Term of agreement and termination of agreement
- Treatment of disputes
- Terms and conditions for fair compensation when it is not possible to provide the agreed quality level
- Other general contractual terms and conditions

349. In other respects than those set forth in this section, the reference offer shall be in accordance with the Rules concerning Reference offers for Interconnection, no. 94/2002 as appropriate.

350. Should the Siminn reference offer not be considered adequate for the market, the PTA could prescribe amendments to the offer pursuant to Paragraph 2 Article 29 of the Electronic Communications Act. Given the problems that have emerged in previous contractual negotiations with Siminn, the PTA considers it appropriate to stipulate that Siminn may not demand a bank guarantee from electronic communications undertakings without special permission from the PTA.

351. The PTA imposes the obligation on Siminn to notify other companies in advance about all amendments to the reference offer with at least three months' notice. It is however

authorised to notify changes to price no later than two months before the changes come into effect. Changes to interconnection areas and interconnection points shall be notified with six months' notice

352. All electronic communications companies that make agreements on interconnection or other access forms, including call origination in fixed line networks, are obliged to send the PTA a copy of such agreements without delay and no later than one week after the signing, pursuant to Paragraph 6 Article 24 of the Electronic Communications Act.

353. With the authorisation in Article 29 of the Electronic Communications Act the PTA intends to maintain the obligation on Siminn for transparency and the publication of a reference offer, terms and conditions for delivery and use and tariffs information for wholesale fixed line telephone services. Siminn is further obliged to notify the PTA of all changes to relevant contracts or to the reference offer. Changes to the reference offer do not come into force before they have been endorsed by the PTA. In notifications on planned changes to the reference offer or to the interconnection agreement it shall be clearly stated where in the agreement or in the reference offer changes had been made and there shall be a description of the nature of the changes.

354. The PTA does not consider there to be a need to oblige other companies than Siminn to publish reference offers. The companies in question are smaller than Siminn and their share in the total quantity of call termination is also much smaller. The PTA intends to make their maximum termination charges public with an obligation on price control, see Chapter 7.6.2.5, and access to facilities is not as varied with these companies as with Siminn. The PTA thus considers it sufficient that these companies, i.e. Vodafone, Símafélagið, Nova and Hringdu, provide the PTA and parties that request interconnection agreements, with all necessary information related to interconnection, such as on call termination prices, prices for all related services, all measurement units on which invoicing is based charging period, possibilities for discounts should there be any, other information that affects charging information on location and technical characteristics of interconnection points.

355. The PTA intends to oblige Vodafone, Símafélagið, Nova and Hringdu to notify other companies in advance, of changes to the terms and services, no later than three months before the changes are implemented. It is however authorised to notify changes in price with two months' notice. Changes to interconnection areas and interconnection points shall be notified with six months' notice. The companies should also notify the PTA of all changes to interconnection agreements, tariffs or general terms for interconnection. Changes to tariffs and general conditions would not come into force before the PTA has endorsed them. In information that is provided, the changes that have been made and the nature of these changes must be shown clearly.

7.6.2.4 Obligation for accounting separation

356. For the obligation for non-discrimination to be effective it is necessary to impose the obligation for accounting separation on the companies in order to make it possible to confirm that they have fulfilled the requirements of selling other service providers its services at the same price as to their own retail departments.

357. In Regulation number 564/2011 on book-keeping and cost analysis in the operations of electronic communications companies, there is an explanation of the purpose of accounting

separation and instructions on how it should be implemented. The purposes is inter alia to make it possible to see income, costs and sunk capital for varying operational units and to be able to show that the same conditions apply to services provided to other companies and to services supplied to other departments of the electronic communications company in question.

358. Accounting separation supports the discovery of possible failures on the market and reveals whether non-discrimination is practised on the market or not. Obligations on accounting separation increases transparency because they cast light both on wholesale prices and on internal pricing of services within the company itself. The PTA also has the possibility to investigate whether the obligations for non-discrimination are fulfilled and in addition to this can tackle problems related to price competition.

359. The Vodafone market share in fixed line telephone services has grown considerably since the analysis was made on the market in 2008, which means that a larger part of termination takes place in Vodafone's network than was the case before. One must consider it likely that up to 38% of all termination in fixed line networks takes place in Vodafone's network. Vodafone has very varied operations like Siminn and operates inter alia mobile phone services that purchase termination in fixed line networks. The PTA considers that in the light of the growing importance of termination in Vodafone's network it is now proper to impose an obligation on Vodafone for accounting separation on this market.

360. With the authority in Article 31 of the Electronic Communications Act, the PTA intends to maintain the obligation on Siminn and to impose an analogous obligation on Vodafone on the relevant market for accounting separation. Such separation should constitute as a minimum that on the one hand wholesale and on the other hand retail fixed line telephone division should have their accounts separated from other operations. Wholesale prices and internal prices within the company should be transparent, inter alia to prevent unfair subsidies. Should accounting separation not be satisfactory, the PTA reserves the right to submit demands at a later date for further separation.

361. In its accounting, Siminn and Vodafone should separate income, expenditure, assets and capital for their fixed line phone networks. Siminn and Vodafone should provide to the PTA on an annual basis with a breakdown of the operational accounts and balance sheet for wholesale and retail along with a statement of the division of indirect costs that were not possible to assign through comparison with other cost items. The above specified statement should have reached the Administration no later than five months after the end of the operational year.

362. The PTA considers it to be no reason to impose obligations for accounting separation on Símafélagið, Nova and Hringdu as their operations are not as varied as those of Siminn and Vodafone and in addition they are much smaller.

7.6.2.5 Obligation for price control

363. According to Article 32 of the Electronic Communications Act, the PTA may, when market analysis indicates that a lack of active competition results in a company with significant market power demanding excessively high fees or that there is an abnormally small difference in wholesale and retail prices, impose obligations on an electronic communications company for a cost related tariff and obligations for cost accounting for certain types of interconnection or access. As was stated in the discussion on competition

problems, the PTA considers that a company that operates a fixed line telephone network can have the incentive to demand higher call termination charges should there tariffs not be subject to price control.

364. With reference to Article 32 of the Electronic Communications Act, the PTA intends to maintain obligations on Siminn and Vodafone and to impose analogous obligations on Símafélagið, Nova and Hringdu for cost related tariffs. The obligation, will however be elaborated in a manner other than was done in the PTA decision from 4 December, 2008.

365. In the decision of the PTA from 4 December, 2008 it was prescribed that the price for call origination and termination in fixed line networks should be according to cost analysis based on historical costs. In the decision of the PTA number 15/2011 the PTA decided a more detailed elaboration of the structure of price control, where it was decided to use the Siminn cost analysis that was submitted on 19 April, 2011, i.e. cost analysis based in part on historical costs. Siminn was to make an annual review of the above specified cost analysis. The conclusion of the Siminn cost analysis showed that the termination price was ISK 0.63 per minute and the connection price ISK 0.62 for each telephone call. The conclusions of the review of the cost analysis in each instance were to be subject to approval by the PTA. This was the sixth lowest price for termination among the 30 countries in the EEA in April 2011.⁶¹ Given available price decisions in January 2012, the above specified termination rates are among the lowest in the EEA.⁶²

366. The EU Commission issued a Recommendation with respect to the regulatory treatment of termination charges in mobile phones and fixed line networks in May 2009.⁶³ The Commission considered that obligations with respect to termination rates were not sufficiently homogenous in member states of the union and decided to issue a regulation to support homogenisation. ESA issued an analogous Recommendation 13 April, 2011.⁶⁴

367. The main rule according to the recommendations is that the regulatory authorities should prescribe termination rates that take into account the cost of call termination in mobile phone networks in efficiently designed electronic communication networks, in accordance with a cost model based on the Long-Run Average Incremental Cost (LRIC) methodology.⁶⁵ Projections are made of future developments on the basis of current costs where the assumption is the use of the most efficient technological solutions, such as next generation networks (NGN) in the core component of the network. This is a current cost pure bottom-up LRIC cost model,⁶⁶ i.e. what is called "pure LRIC". There should be corresponding prices in all companies on the relevant market at the end of 2012, i.e. symmetrical prices.

⁶¹ The comparison relates to the calculated price for 1 min for a three-minute call through an exchange (*single transit*).

⁶² BEREC BoR (11) 56 TR Benchmark snapshot (as of January 2012).

⁶³ Commission Recommendation of 7.5.2009 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU

⁶⁴ EFTA Surveillance Authority Recommendation of 13 April 2011 on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EFTA States.

⁶⁵ Long-Run Average Incremental Cost (LRIC) is the cost that is added or is saved when a specific service or operation is added or discontinued, on the assumption that all costs are variable.

⁶⁶ One speaks of a "bottom-up" LRIC (BU-LRIC) in the case of a cost model for calculating the price of service on the basis of costs incurred in an efficiently designed electronic communications network in the relevant electronic communications market.

368. The incremental service in question in the pure LRIC model is call termination at wholesale level. The additional cost in question or "avoidable cost" for wholesale service for call termination is the difference between total costs of network operators that provide full wholesale services and the total costs of the same network operators, less call termination wholesale services to third parties. In other words one only calculates the call termination costs that are avoided if the service in question is discontinued.

369. If a regulatory authority, because of its size and/or lack of funding, is unable to implement LRIC then it can use another methodology, e.g. benchmarking, see Article 12 of the ESA Recommendation and Paragraph 22 of the preamble to the Recommendation. If it is shown that this method returns an outcome that harmonises with the objectives of the Recommendation then the implementation of LRIC can be postponed until 1 July 2014. Under specific circumstances it is possible to postpone even further. The results from another methodology than LRIC should not exceed the average termination rates for states that use the pure LRIC methodology.

370. The PTA considers it appropriate to take into account the ESA Recommendation in question on call termination rates as the PTA considers the method recommended by ESA to be such that it supports active competition and homogenisation of regulatory action in the EEA area.⁶⁷ The PTA considers that cost analysis based on historical costs, as the existing origination prices are based on, is not a suitable long-term solution for determining the costs of an efficiently operated company on the fixed line telephony market. Historical costs often include a significant level of inefficiency. Equipment registered in the company's books with a long history of operations can be largely obsolete or at least less efficient than equipment based on the newest technology. There is a danger that with fixed line telephone services that the networks of the former monopoly holder were developed with unnecessarily large capacity given circumstances on the market today. In addition to this, all figures for costs are for past years, while the pricing that needs to be found has to apply for the future.

371. The PTA considers because of the high cost of implementing the LRIC cost model that it is not appropriate to adopt such a methodology on this market in this country. This could entail unnecessarily high costs for the PTA and for the relevant electronic communications companies. Experience in the EEA has shown that the cost in making a BU-LRIC model is in the order of ISK tens of millions for each model and for each update. The PTA considers it to be an NRA as defined in the provisions of Article 12 of the above specified ESA Recommendation on call termination charges from 13 April, 2011, as the Administration is very small in a European context. This means that the PTA budget is much more limited than would normally be the case. It is not considered right at this stage to make this requirement as the increase in cost would in all likelihood be eventually borne by consumers in the form of higher rates. The PTA thus intends to invoke the exemption in Article 12 of the ESA Recommendation (see Paragraph 22 of the preamble to the Recommendation which was quoted here above, also authorisation in Paragraph 4 of Article 32 of the Electronic Communications Act) and prescribe price control on the relevant market that is based on benchmarking. The PTA intends to prescribe symmetrical termination rates and that termination rates should be based on the costs of an efficiently operated network in

⁶⁷ The PTA also complied with the ESA Recommendation from 13 April 2011 when deciding termination rates on Market 7 (termination in mobile phone networks), see the PTA decision 13 January, 2000 and the appendix to that decision: http://pfs.is/upload/files/Ákv_%20PFS_nr.3_2012.pdf and http://pfs.is/upload/files/Ákv_M7_Viðauki_A_jan2012.pdf

the EEA using benchmarking. Instead of making a pure LRIC model, the PTA intends to prescribe that termination rates shall be based on benchmarking with termination rates in comparison countries that base the results of the calculations on pure LRIC models. The benchmarking shall take account of the target rates in force in the relevant EEA states when the benchmarking takes place.

372. According to paragraph 4 of Article 32 of the Electronic Communications Act the PTA can, when calculating costs, use as a reference the operation of analogous service that is considered efficiently run. It can also take into account tariffs in analogous competition markets and it may use cost analysis methodologies that are not related to methodologies employed by an electronic communications company. When selecting analogous competition markets one must, in accordance with the above specified ESA Recommendation, use the electronic communications markets in the EEA as a reference, where there are 30 states, including Iceland. Regulatory bodies in the EEA monitor tariffs of companies with market dominance, each in its own country, and termination rates for fixed line telephony services are often decided on the basis of cost analysis. When choosing countries for comparison and for the calculation of call termination in fixed networks when benchmarking is used, the PTA shall apply the following main criteria:

- Reference should be made to those EEA states where the termination rates of companies with market dominance on the markets in question are subject to monitoring of tariff by the NRA of the state in question, on the basis of cost analysis where the pure LRIC methodology is applied.
- Comparison of prices should be based on conclusions on termination rates according to calculations based on the pure LRIC model which were available when the benchmarking was made in each instance.
- Comparison shall be made with the price for single transit.
- The reference shall be the price per minute of a three-minute call.⁶⁸
- Comparison shall be made using the average exchange rate in the relevant quarter⁶⁹.
- The resulting price shall not be higher than the arithmetic average in those countries that fulfil the above conditions.

373. During the period of validity of the Decision the PTA will regularly repeat benchmarking using the above criteria and will decide the maximum call termination charge effective as from 1 January each year, in accordance with the conclusions of the benchmarking, but in the first instance as from 1 July 2013 and then annually as from 1 January, 2014. The PTA will publish the conclusions of the benchmarking no later than 1 November each year (for prices that will apply as from 1 January next year), subsequent to national consultation and consultation with ESA. The first benchmarking shall, however, be completed no later than 1 May, 2013 and then annually as from 1 November, 2013. Generally all the states fulfilling the above criteria will be used in the benchmarking. In the opinion of the PTA it is however necessary to have a minimum of five comparison countries as the basis for a decision on price using benchmarking. Therefore the above timing is with the reservation that at least five countries meet the above conditions. Should there not be five

⁶⁸ A 3-minute average call duration has been assumed, calculated according to the following formula: average minute price for call termination = call setup charge/3 + per minute charge.

⁶⁹ In this process the PTA shall apply the BEREC implementation in its regular benchmarking.

available criterion countries on 1 January 2013, the first benchmarking will be postponed for at least six months, or until the number of criterion countries will be enough.

374. In the opinion of the PTA, it is not possible for termination rates to be related to benchmarking based on the pure BU-LRIC approach on 1 January 2013. To date, none of the Comparison countries fulfils the above specified conditions for benchmarking, as there is no decision yet on termination rates for single transit based on the pure LRIC model in the EEA today. The PTA expects that in the coming months the circumstances will be created to make it possible to implement benchmarking as decisions will have been made based on the pure LRIC methodology in accordance with the above specified recommendations from the EU and ESA.

375. Siminn rates for call termination, according to the revised cost analysis which was endorsed with the PTA decision number 15/2011 are now ISK 0.63 per minute and ISK 0.62 connection charge for each call. This price shall be Siminn's maximum price until the next PTA benchmarking has been completed.

376. The Vodafone termination charge is now ISK 0.73 per minute with an ISK 0.69 connection charge. According to the PTA decision from 4 December, 2008, Vodafone's rates should decrease in stages until they are symmetrical with Siminn rates. There is only one stage left of this glide path and Vodafone's rates will be symmetrical with Siminn's rates from 4 December, 2012. From and including 4 December, 2012 the Vodafone maximum call termination rate will be ISK 0.63 per minute and connection charge ISK 0.62 until the next PTA benchmarking has been made.

377. The termination rates of Símafélagið and Hringdu are currently higher than at Siminn but at Nova they are lower. According to the ESA Recommendation on termination rates, maximum charges on the market should be symmetrical, i.e. that the same maximum termination rates should apply to all the companies in question. As the rates should be related to efficient operations it is not possible to justify varying rates by saying that the operations of some companies are less efficient than those of others. It does not encourage efficient operations if varying rates are decided depending on the needs of each company.

378. According to Item 11 of the ESA Recommendation in question, termination rates shall be based on costs in efficient operations, no later than 31 December, 2012. Rates from that time shall be symmetrical except where there are factors that justify varying costs, see Articles 9 and 10 of the Recommendation. Article 9, discusses persistent difference in costs that can only be considered justified with mobile phone companies that are subject to discrimination in frequency licences. Article 10 discusses the glide path for new companies that have higher unit costs because of lower market share. According to the wording of the Article this only applies to mobile phone companies. An explanation of this is to be found in Paragraph 17 of the preamble to the Recommendation, and in Chapter 5.1.3 in the Explanatory Note to the Recommendation from the European Commission on termination rates. There it was stated that companies supplying fixed line telephone network services do not need to invest in extensive networks but can lease access, as required. These companies can have local network operations and can focus on highly-populated areas. This means that they can achieve lower unit costs despite low turnover and thus lessen the impact of economy of scale.

379. In accordance with the ESA Recommendation, the PTA intends to prescribe

symmetric termination rates and that the maximum termination rates for Símafélagið, Nova and Hringdu will be the same amount as the Siminn termination rates. The above specified maximum termination rates, ISK 0.63 per minute and ISK 0.62 connection charge on each call, shall apply for Símafélagið, Nova and Hringdu as from 1 March 2013 until the next PTA benchmarking has taken place. The PTA considers it appropriate to give the companies at least two months from the publication of PTAs decision to adapt their retail prices to the decision.

Maximum termination rates until the rates are decided on the basis of benchmarking

Period	Rates until 3. Des. 2012		Rates 4. Des. 2012 - 28. Feb. 2013		Rates as from 1. Mar. 2013	
Company	Connection ISK/call	Per minute ISK/minute	Connection ISK/call	Per minute ISK/minute	Connection ISK/call	Per minute ISK/minute
Síminn	0,62	0,63	0,62	0,63	0,62	0,63
Vodafone			0,62	0,63	0,62	0,63
Símafélagið					0,62	0,63
Nova					0,62	0,63
Hringdu					0,62	0,63

7.6.2.6 Cost accounting

380. As the PTA intends to apply benchmarking as the method for deciding Siminn prices for call termination and to discontinue benchmarking based on historical costs, there will no longer be a need for any particular cost accounting on this market. The PTA therefore intends to withdraw the cost accounting obligation currently imposed on Siminn on the market for call termination in public telephone networks provided at a fixed location.

7.6.2.7 Assessment of the effects of planned obligations

381. In accordance with the principle of proportionality, it is necessary to assess whether the burdensome impact of the obligations that the PTA plans to impose are proportionate in the light of the objectives. The PTA considers that the obligations are conducive to achieving the objectives of the Electronic Communications Act number 81/2003 on active competition and efficient electronic communications. The need for each individual obligation is discussed in the relevant chapters here above, and reference is made to this discussion.

382. There are now fewer obligations on Siminn as the company no longer needs to maintain special cost accounting for call termination and nor does it have to submit a special cost analysis to the PTA for termination rates nor, submit a cost analysis to the PTA for a decision on termination rates. Siminn's costs for implementation of the obligations are less than it was before. In other respects the obligations on Siminn are analogous to what they have been and it is not significantly burdensome for Siminn that they are maintained.

383. The PTA now intends to impose an obligation for accounting separation on Vodafone. Up till now the company has not been subject to this obligation on this market. Accounting separation is rather burdensome where it has not been imposed before and one can assume

that this obligation will entail some costs for Vodafone. The PTA considers on the other hand, in the light of the scale and scope of Vodafone operations that separate accounting for termination services is necessary, so that internal sales in the company can be monitored to prevent distortion of competition which can happen if internal prices are not the same as those offered to competitors. In other respects the obligations on Vodafone are the same as were imposed in 2008, and their being maintained is not particularly burdensome.

384. Obligations on the new companies Símafélagið, Nova and Hringdu, are not expensive to implement. Access is prescribed which is already in existence and that it should be provided without delay when requested. A further demand is for reasonable provision of information to the PTA and to potential counterparties. Such provision of information should neither be difficult to implement, nor should it entail great expense. The new companies do not have to publish a reference offer, nor do they have to separate their accounts and they do not have to perform cost analysis. The obligations thus do not have a significant impact on the costs of these companies. Obligations on price control have on the other hand an impact on their income. As was described in 7.6.2.5 the rates will be related to costs of an efficiently run company. New companies on the fixed line telephone market have the opportunity to operate in an efficient manner, despite having a small customer base. They can begin with a small investment in profitable areas and have the possibility of lowering their unit prices despite small turnover. For this reason, it is not considered particularly burdensome that termination rates are reduced to what is considered normal in a well operated company. In addition to this, these companies have operated on the market and in most cases will have collected higher termination rates for 2 to 4 years at the time when one can expect the decision on reduction in rates to come into force, so one can say that they have enjoyed a reasonable glide path. It should be mentioned that new companies that enter this market in the future cannot expect a glide path to lower their rates as the ESA Recommendation on termination rates assumes that all termination rates in fixed line networks will be symmetrical after 31 December 2012.