Nasjonal kommunikasjonsmyndighet

Results from the consultation on Nkoms notification of decision in the market for access and call origination on public mobile telephone networks (marked 15)

Annex 3

Case 1804194
14 May 2020

Contents

1 Introduction

This document summarises the consultation responses the Norwegian Communications Authority (Nkom) received to its notification of a decision in the market for access to and call origination in public mobile communications networks (previously Market 15). The notification was circulated for national consultation during the period from 31 May 2019 to 28 June 2019. The following parties submitted responses to the consultation:

- Atea AS (Atea)
- eRate Norway AS (eRate)
- Fjordkraft AS (Fjordkraft)
- Happybytes AS (Happybytes)
- ICE Communication Norge AS (ICE)
- The Norwegian Competition Authority
- Phonect AS (Phonect)
- Saga Mobil AS (Saga Mobil)
- Telenor ASA (Telenor)
- Telia Norge AS (Telia)

Nkom invited the operators to comment on the consultation responses received by 12 August 2019. The following operators submitted comments on the consultation responses:

- Atea AS
- eRate Norway AS
- Fjordkraft AS
- ICE Communication Norge AS
- Phonect AS
- Telenor ASA

During the period from 13 August to 11 September 2019, Nkom conducted a separate consultation concerning the margin squeeze model and the operational principles for the model. The following operators submitted consultation responses:

- eRate Norway AS
- Fjordkraft AS
- Phonect AS
- Saga Mobil AS
- Telenor ASA

Nkom invited the operators to comment on the consultation responses received by 7 October 2019. Nkom did not receive any comments. However, the following inputs to the price controls are received:

- The report “Quantifying uncertainty in the Nkom margin squeeze model», from Oslo Economics on behalf of Telenor, 7. October 2019
- Additional comments to price controls from Ice, 25. October 2019
- Comments fra Telenor to the additional comments from Ice, Ice, 19. November 2019

The adjusted draft decision was published on Nkom's website on 13 December 2019. In a letter dated 19 December 2019, Telenor requested that Nkom conduct a new consultation concerning the proposed regulation. The reason for the request was that Telenor believed that the proposed obligations, including the linear price structure, would have major consequences for the market and the network development because the access price would have to be reduced significantly. Nkom partly accommodated Telenor’s request and invited the affected parties to submit written feedback before 20 January 2020 to the proposed design of the price regulation, and the requirements of a price structure proposed in Chapters 7.2.5 and 7.5.

The following operators submitted consultation responses:

- Atea AS
- eRate Norway AS
- Fjordkraft AS
- Hudya Data og Tele AS
- ICE Communication Norge AS
- The Norwegian Competition Authority
- Phonect AS
- Saga Mobil AS
- Telenor ASA
- Telia Norge AS

The following operators submitted comments on the consultation responses:

- Atea AS
- eRate Norway AS
- Fjordkraft AS
- ICE Communication Norge AS
- Saga Mobil AS
- Telenor ASA
- Telia Norge AS

The statements from the various consultation respondents are summarised according to the chapters of the notification. In addition, Telenor’s input of 7 October 2019 is summarised in Chapter 7.6.1.7, and additional comments from Ice and Telenor are summarised in Chapter 7.6.1.8, while the input after the consultation concerning price regulation and price structure is summarised in Chapter 8. Nkom briefly states its views on the relevant comments and how the Authority has considered the input.

The consultation responses are available on Nkom's website.[1]

2 Market definition

Assessment and conclusion in the notification of a decision

Nkom has defined the relevant wholesale market to include wholesale access in all public mobile networks, and origination of voice, SMS and data services for the following external access types: Access via national roaming, MVNO access and service provider access. The market is delineated to concern access to offer ordinary mobile services, including mobile broadband. Access to offer M2M/IoT services is not included. Geographically, the market is defined to be national.

Consultation comments

Telenor's view is that a relevant retail market for mobile telephony exists, comprising both the residential and business segments, as well as mobile broadband. If Nkom's approach is nonetheless to be applied, so that there are four unique retail markets, Nkom must assess the competitive conditions in a forward-oriented perspective in each market.

Atea remarks that new product areas (5G, NB-IoT, LTE-M, etc.) must be regulated in order to increase product innovation and competition in the market. Atea refers to how regulated operators have chosen to offer NB-IoT and LTE-M to the operators (voluntarily), but that the price offered is significantly higher (and priced differently to other data) than what is offered to retail customers.

eRate and **Happybytes** also believe that the market should not be delineated in relation to IoT/M2M. These operators refer to how competition would be distorted if operators with their own networks are able to build up a strong market position while keeping other operators out during the initial phase. This is a highly price-sensitive market, and it will not take very much for products and services not to be competitive, if prices are not regulated. They also write that they have been offered NB-IoT and LTE-M with a different price structure to other data, and fear that this will not be competitive. These operators believe it is important to view data independently of technology. Moreover, it is essential that 5G is included in the market

[1] See: http://www.nkom.no/marked/markedsregulering-smp/marked/marked-15

definition that are established, in order to maintain competition in the market. It is irrelevant whether data is transmitted via 2G, 3G, 4G or 5G.

Fjordkraft and **Phonect** also believe that NB-IoT/LTE-M must fall within the regulation, as this is necessary so that service providers can offer complete mobile services. Their experience is that the prices offered for such solutions are far too high for the companies to be able to commercialise them. Fjordkraft and Phonect believe that the pricing of these services should be subject to such regulation, including a prohibition against discrimination, and the requirement to make new services available at the same time as Telenors own retail business.

Nkom's assessment

Telenor do not substantiate their view that there is only one relevant retail market, but point out that if four retail markets are nonetheless to be assumed, as Nkom does, it must be shown with an overweight of probability for each of the markets that they do not tend towards sustainable competition, in order for regulation to be justified. Nkom refers to how the market definition is the basis for defining the four retail markets, including Nkom's assessment that there are insufficient disciplinary effects in the four retail markets for any of them to be assessed on an aggregated basis. The assessment of whether the market tends towards sustainable competition is primarily made in Chapter *4.3 Second criterion* in the three-criterion test, seen in the context of the dominance assessment in Chapter 5[2]. Reference is made to Chapter 3.2 of the summary for comments related to the competition assessments.

With regard to the inclusion of new technologies, Nkom concludes that the market is technology-neutral. This entails that if the four defined product markets can be supported by other technologies, such as 5G, the technology will be subject to the regulation.

NB-IoT and LTE-M are technologies that support other product markets than the four defined retail markets, namely communication between physical objects (M2M/IoT). Nkom has concluded in the notification that it is too early to perform a separate analysis of any such market, and that the early stage of the development also impedes any decision of appropriate remedies. Nkom believes that this assessment is in line with item 28 of the Recommendation. Nkom also refers to BEREC's recent assessment of the regulation of M2M/IoT services within the roaming regulations. This states that such services cannot necessarily be regulated according to the same models as ordinary data traffic, but will require more detailed assessment and adjusted regulation[3].

[2] In the preamble to the Recommendation, item 16, ESA states that the assessment of criteria 1 and 2 will mainly be based on the same factors as the SMP analysis.

[3] BEREC Opinion on the functioning on the roaming market, as input to the Commission's evaluation, 13 June 2019 https://berec.europa.eu/eng/document_register/subject_matter/berec/opinions/8595-berec-opinion-on-the-functioning-of-the-roaming-market-as-input-to-ec-evaluation

Nkom maintains the market definition, but has made some minor changes to the text, based on the input.

3 Three-criteria test

3.1 First criterion: High and non-transitory entry barriers

Assessment and conclusion in the notification of a decision

In the analysis, Nkom has concluded that there are high and non-transitory entry barriers in the relevant market, fulfilling the first criterion.

Consultation comments

The Norwegian Competition Authority agrees that it is costly, risky and time-consuming to become established in the Norwegian wholesale market for mobile services, and that the entry barriers to the market are therefore high.

Nkom's assessment

Nkom maintains the assessment that the first criterion is fulfilled and has not made any changes to the text.

3.2 Second criterion: The market is not tending towards effective competition

Assessment and conclusion in the notification of a decision

Under the second criterion, Nkom has assessed whether the market has characteristics that do not make it tend towards sustainable competition. Nkom has concluded that there are no sufficiently clear indicators of dynamics in the market within the time horizon of the analysis that suggest that the market will tend towards sustainable competition without ex ante regulation.

Consultation comments

Telenor is of the view that in the notification Nkom gives limited weight to the development in the relevant retail markets and that Nkom seems to be more concerned with the wholesale market than the competition in the retail market. Telenor is of the view that an impression is created in the notification that it is an objective in itself to facilitate competition in the wholesale market, without taking into account that the competition in the retail markets is the goal of any ex-ante regulation. Telenor writes that there will only be a basis to regulate wholesale access to this retail market if it can be shown with an overweight of probability that the terms of competition in the relevant retail market do not tend towards competition. In the notification, Nkom does not appear to adhere to this methodology, and this is particularly noteworthy for mobile broadband.

Telenor is of the view that Nkom has not sufficiently assessed the significance of Ice's development and its significance for the competition in the retail market during the current period. Telenor refers to how Ice has grown considerably and has contributed to an increase in competition in the retail market. According to Telenor, there is nothing to indicate that Ice is on its way out of the market or has limited competitiveness. Telenor believes that Ice is well-established as MNO and points out that Ice has 89 per cent geographical cover, while the proportion of traffic in its own network is increasing. There is increasing competition between the three network owners in the retail market and, according to Telenor, this competition has been the primary goal of all regulation in the mobile market.

Telenor furthermore refers to how Ice is bringing increased competition to the retail market and believes that the same assessment should be applied to Ice's role in the wholesale market. The background to this is that, with relatively few customers and a high degree of population coverage, Ice has a lot of vacant capacity in its own network, and thereby an incentive to achieve the greatest possible return on this capacity. With this position, Telenor believes that Ice has the opportunity to enter into price models in the wholesale market that established operators with higher capacity utilisation do not offer.

According to Telenor, the market development shows that there is competition in the retail market and that there is no longer a need for extensive access regulation. Telenor is of the view that Ice does not depend on regulation today and refers to how for the whole of the last regulation period Ice has had roaming agreements with Telia. The wholesale market is less and less significant to competition in the retail market.

Telenor states in particular that this may not be the basis for the regulation of mobile broadband and refers to how the market shares are evenly distributed in the retail market and that no operator has a market share exceeding 50 per cent. HHI in a combined market for mobile broadband for residential and business segments is 0.33[4]. Telenor is thus of the view that there must be clear actual evidence to substantiate that the competition in this retail market is not efficient. Considering the residential and business segments separately, Telenor is not the largest provider in the residential segment either.

[4] Based on number of subscriptions.

Atea takes the view that there is broad consensus that the competition in the mobile market is not characterised by sustainable competition.

eRate does not believe there is sustainable competition in the Norwegian mobile market and refers to the development in market shares, price level and data consumption compared to neighbouring countries, profitability calculations for access buyers, and reported EBIT/EBITDA from Telenor and Telia. According to eRate, the competition has weakened during the period from when the current decision was taken, as there have been fewer contenders and competitors in the market with volume that is relevant to the competition. During the same period, Telenor and Telia increased their market shares measured by revenue; Telenor through organic growth and Telia by acquisition of operators.

eRate believes that Ice and the third network will not drive competition in itself. The market is large enough to be shared between three operators. On the other hand, the competition that Ice can create through access buyers and wholesale pricing could, in the long run, change the competition dynamic so that the market tends towards sustainable competition. The smaller access buyers will drive the competition within the three networks that will then be available. Challenging the two existing networks is a difficult task for Ice since these are among the world's best and soundest networks. eRate believes that it will take many years for the Ice infrastructure to become an important factor in the development of sustainable competition in the market.

According to **Happybytes**, the competition has weakened during the period from when the current decision was taken, as there have been fewer contenders and competitors in the market with volume that is relevant to the competition. During the same period, Telenor and Telia increased their market shares measured by revenue; Telenor through organic growth and Telia by acquisition of operators.

Ice writes in its comments on Telenor's consultation input that, in contrast to what is claimed by Telenor in their consultation response, neither the retail market nor the wholesale market is tending towards viable competition. Even though Ice is in a clear growth phase, it is still Telenor and Telia that dominate both the wholesale and retail markets. Ice's grounds for this claim include that these operators control over 90 per cent of the revenue in the Norwegian mobile market, they have the clearly highest sales revenue per subscriber, and they have very high EBITDA margins. Neither Telenor nor Telia has any incentive to offer conditions in the wholesale market that can threaten their position and earnings in the retail market. This is supported by the fact that in 2018, operators based on purchased access have a total market share of 3.3 per cent by revenue (including Komplett Mobil), and that none of these have a market share exceeding 1 per cent.

Ice furthermore refers to how the coming three-year regulation period constitutes a critical period for Ice's development of the third network. Today, Ice covers close to 90 per cent of the population of Norway on its own network and plans further expansion to increase this ratio during the regulation period. The costs of increasing the coverage ratio increase progressively the closer we get to 100 per cent. During the coming regulation period, effective regulation of access to co-location will therefore be of great importance in achieving the goal of competition between three fully-developed competing mobile networks.

Ice furthermore writes that even if the company rapidly increases the coverage and traffic ratio in its own network, they will still rely on buying national roaming from Telia or Telenor in the coming regulation period. The need to buy national roaming from Telenor or Telia weakens Ice's opportunities to challenge these operators in both the retail and wholesale markets.

The Norwegian Competition Authority agrees that, in the long term, the development of the third mobile network can give the market a competition dynamic that makes advance regulation unnecessary. In the Competition Authority's view, however, the competition in the wholesale market is not yet good enough, and the further development of the third mobile network is still so fragile that as of today it cannot be concluded that the market tends towards sustainable competition within the time frame of the analysis.

Nkom's assessment

The objective of regulation is to benefit end users by facilitating efficient and lasting competition in the retail market[5]. Nkom's draft decision is drawn up in line with this. However, efficient and lasting competition in the retail markets is closely linked to the conditions for competition in the wholesale market. Nkom refers, among other things, to item 13 of the preamble to the Recommendation, which states that whether there is efficient and lasting competition in a retail market depends on finding a provider or providers with significant market power.

Nkom has performed an assessment of whether the market tends towards sustainable competition in accordance with ESA'S recommendation. Below, reference is made to item 16 of the preamble, which describes the methodology for assessing whether a market qualifies for advance regulation. After detailed analysis of criterion 2, Nkom concludes that there is no clear evidence of a dynamic indicating that the relevant wholesale market will tend towards sustainable competition without ex-ante regulation within the timeframe of the analysis. Nkom's conclusion concerning significant market power for Telenor in the wholesale market also underpins that there is no basis to claim that any of the four related retail markets will be characterised by efficient and lasting competition without wholesale regulation. Nkom is

[5]See, for example, item 7 of the Recommendation.

thereby of the view that it is adequately substantiated in the analysis that, without sector-specific advance regulation, there will be no efficient competition in a forward-looking and lasting perspective in the four retail markets.

Telenor is of the view that Nkom has not specifically assessed the significance of Ice to the competition in the retail market. Nkom does not agree with this and is of the view that the analysis contains a detailed assessment of Ice's significance to the competition in the retail market. The assessments of market shares and profitability show clearly that Ice still has a very different position in the retail market to that of the two established operators. Like eRate, Ice and the Norwegian Competition Authority, Nkom is furthermore of the opinion that further development of Ice's network is required for it to be able to exert efficient competitive pressure on the two established operators. There is still uncertainty concerning the progress of this expansion. Ice still also depends on access to the existing infrastructure of the two established network owners, in terms of both national roaming and co-location. The regulation thus provides a safety net for Ice to be able to buy regulated access to national roaming and co-location during this period. In Nkom's view, there is thus no basis to conclude that Ice can create efficient and lasting competition in the retail market without advance regulation. The same arguments apply to the wholesale market.

With regard to mobile broadband, the same input factor is predominantly used in the wholesale market as for the production of telephony-connected mobile services. Market shares are more evenly distributed between the three network owners when it comes to mobile broadband, rather than traditional telephony, but Ice still has a far smaller position than Telenor's, in overall terms (residential and business). Ice's share of subscriptions and revenue is around half of Telenor's, taking residential and business together. In the residential market, however, Ice has a 28 per cent market share, and Telia is the largest operator, with 36.5 per cent of the number of subscriptions. Ice's strong position is probably to a great extent due to the access to the 450-MHz frequencies. This frequency band was allocated to Ice once more in May 2019. Nkom thus acknowledges that the terms of competition in the residential market for mobile broadband are probably to a greater extent characterised by efficient competition than for the other retail markets. No access buyers have succeeded in this market, however. Other operators account for two per cent of the number of subscriptions and 1.3 per cent of the revenue (residential and business combined) for mobile broadband. Since there is a common wholesale market for the four retail markets, Nkom is of the view that the positive development in the residential market for mobile broadband is not sufficient to absolve the wholesale market as such. Access buyers require access to data traffic and themselves determine which of the four retail markets the input factor is to be used in. From a more pragmatic standpoint, it is thus difficult to differentiate the regulation, or withdraw it with consequences solely for one retail market.

Nkom maintains the assessment that the second criterion is met. Based on the input, Nkom has made a few minor changes to the assessment of criterion 2.

3.3 Third criterion: General competition law is insufficient

Assessment and conclusion in the notification of a decision

In the analysis, Nkom has made an assessment of whether general competition law alone can address the structural problems in the market in a sufficiently effective, appropriate and predictable way. The notification concludes that this is not the case and that the third criterion has thus been met.

Consultation comments

The Norwegian Competition Authority agrees that access buyers in the market need pre-defined access commitments and rapid intervention, and that this entails that ordinary competition law should be supplemented with continued sector-specific regulation for a limited period.

Nkom's assessment

Nkom maintains the assessment that the third criterion is fulfilled and has not made any changes to the text.

4 Analysis of significant market power

Assessment and conclusion in the notification of a decision

Based on a presumption concerning significant market power that is strengthened by several other factors, Nkom has concluded that Telenor can act independently of competitors, customers and consumers in the period covered by the analysis.

Consultation comments

Telenor disagrees in principle that a need for regulation exists in this market, and in Telenor's view, the conditions for regulation are not met. Telenor has commissioned a report from Oslo Economics, which is attached to their consultation input. In the report, Oslo Economics concludes, among other things, that the market development indicates that Telenor does not have significant market power, and subsidiarily that the regulation should be softened up. The conclusion is based on how the market concentration has decreased, Telia's acquisition has facilitated stronger competition, and quality-adjusted prices have been reduced.

Atea, eRate, Fjordkraft, Happybytes and **Phonect** support Nkom's conclusion that Telenor must once again be designated as an undertaking with significant market power.

Ice is of the view that the two large mobile operators in Norway have a joint SMP in the wholesale market and the retail market. The input from Ice is commented on in Chapter 5.

Telia also mainly comments on the assessment of joint SMP. Telia refers, however, to how Telenor has a special position with regard to high, stable market shares in all parts of the value chain, profitability, ownership and control of underlying input factors and economies of scope.

Nkom's assessment

Nkom believes that the elements in Oslo Economics' assessment of the market development are taken into account in Nkom's market analysis to a great extent. We refer in particular to Chapter *4.3.3 Market concentration,* in which Nkom concludes that the market concentration is still high, and to Chapter *5.7. Vertical integration*, in which Nkom concludes that customers' perception of coverage, and Telenor's ownership and control of underlying input factors, give Telenor advantages that other operators cannot achieve. In terms of the assessments related to price development, Nkom agrees that increased general data consumption, and possibly also improved data quality, are relevant elements to consider on assessing revenue per customer. Increased revenue per customer thus cannot necessarily be blamed for a real price increase or weaker competition. Comparison of average income per customer per month with other EEA countries shows, however, that income per customer in Norway is higher than in all other countries, while data consumption is lower than in many of the countries, cf. Chapter *4.3.4 Price trends and patterns of use* in Nkom's market analysis. Nkom therefore believes that the price development in Norway to a greater extent indicates a lack of competition, rather than increasing competition.

Nkom has not received any consultation input that gives any basis to change the conclusion that Telenor alone has significant market power in the relevant wholesale market. Based on the input to the market analysis, a few adjustments have been made to the text.

5 Assessment of joint SMP

Assessment and conclusion in the notification of a decision

Nkom finds that a conclusion that Telenor has significant market power alone excludes joint SMP. Nkom has nonetheless performed an assessment of joint SMP. Nkom concludes that the criteria for joint SMP are not fulfilled, including that there are insufficient grounds to claim that Telenor and Telia would consider it rational to permanently engage in tacit collusion to deny access.

Consultation comments

Ice believes that it has substantiated its previous input to Nkom that Telenor and Telia have a joint dominant position in the wholesale market and the retail market[6], and that these operators have a strong and coinciding interest in preventing the emergence of a third mobile operator with full coverage in its own network, in particular by impeding the development of the third mobile network.

Ice believes that the starting point for Nkom's assessment of joint SMP is unfortunate and erroneous and refers in particular to Chapter 5.13 of the market analysis in which Nkom writes that "the existence of single dominance in theory excludes the possibility of finding joint SMP". According to Ice, there is no reference to the "theory" Nkom refers to. Ice furthermore believes there is nothing, either in theory or in practice, to prevent the existence of individual SMP and joint SMP in one and the same market.

Ice is also critical of how, in the analysis of joint SMP, Nkom disregards co-location as an access type, and believes that Nkom does not give concrete grounds, other than referring to the Commission's consultation regarding any possible advance definition of co-location as a separate market. Ice, however, does not take the view that this constitutes grounds to disregard joint SMP in the wholesale market also in relation to co-location.

Ice believes there are grounds for particular concern that Telenor and Telia can exert joint SMP within co-location. These operators have coinciding interests in impeding a third mobile network's access to effective co-location and have extensive mutual co-location with each other, providing a good focal point for coordination. Ice also refers to how Telia has substantial income from Ice's national roaming, and that such income will be reduced gradually by Ice's development of its own network. Ice believes that this even gives Telia an incentive to drag out or deny access to co-location.

Telia writes that the company shares Nkom's belief that the existence of single dominance could preclude joint SMP in the same market and that Telia essentially shares Nkom's assessments of the question of joint SMP.

According to Telia, the Norwegian wholesale market is not sufficiently transparent for Telenor and Telia to be able to monitor coordination. The mobile operators do not have any insight into

[6] Reference is made to the consultation input of 23 September 2018, meetings on 23 November 2018 and 24 January 2019, and a memo from BAHR of 22 January 2019

the prices and terms offered by the other network operators to resellers and MVNOs at wholesale level. The wholesale agreements are entered into on the basis of one-to-one negotiations. The process is subject to a duty of confidentiality. The parties negotiate a number of conditions besides prices and price model. The wholesale market is therefore both complex and not very transparent.

Telia also refers to how they have actively sought to win customers in the wholesale market, and are also succeeding with this (have won Chili Mobil and TDC Get, and renegotiated with Ice). Telia also refers to how the future market development indicates that Telia will have no incentives to coordinate with Telenor. Going forward, large system integrators will probably request considerable network capacity from the network providers. These operators use the wholesale product as an integrated element of the product they offer, including integrated IT and mobile communication solutions for large organisations and enterprises. Telia wishes to compete to win these customers where new customers and increased volume are expected to generate higher profits. The market development thus makes it less attractive for the operators to agree on their conduct in the market. It will also be more difficult to coordinate in a changing market.

Telia also believes that Ice has already established an adequate third network in order to be able to compete. As a consequence of good capacity and the need for further growth, Ice will have incentives to increase its market shares of both the retail link and large parts of the wholesale market. In a scenario in which Telia and Telenor had to coordinate conduct and prices, Telia believes that Ice has strong incentives to leverage its response options to act aggressively in both the wholesale market and the retail market. Telia is thereby of the view that any coordination in the wholesale market could reduce the entry barriers for the third operator in the wholesale market.

Telia also refers to a memo prepared by the law firm Kvale dated 8 March 2019 in which joint SMP in Market 15 is discussed, including joint SMP in a separate market for co-location. Kvale concludes that there is no basis to note joint SMP in either today's Market 15 or in a separate market for co-location.

The Norwegian Competition Authority agrees that the market situation has changed sufficiently since the previous market analysis for it to be relevant to assess joint SMP. However, the differences between Telenor and Telia are still considerable, and other aspects of the wholesale market may also contribute to impeding tacit collusion.

Nkom's assessment

From previous input, Nkom has understood Ice to mean that the company does not disagree that Telenor has significant market power alone in terms of access to mobile networks (radio networks), but that Ice is of the view that Telenor and Telia have joint SMP when it comes to co-location offers[7]. However, Nkom does not agree with Ice's methodical approach related to simple and joint SMP within the same market.

Nkom refers to how Section 3-1 of the Electronic Communications Act sets out significant market power "individually or jointly with others" as alternatives. The alternatives are described in the preparatory remarks to the Electronic Communications Act[8]. The definition of significant market power in Section 3-1 also supports Nkom's understanding. Significant market power entails that a provider "individually or jointly with others has economic strength in a relevant market affording the provider the power to behave independently of competitors, customers and consumers to an appreciable extent." If it can be shown that one provider can act in this way individually, it cannot also be claimed that the same provider has coordinated with another operator in a way that gives them significant market power jointly. Joint SMP must not be understood as several operators with (individual) SMP, but as several operators that have "coordinated themselves so that they jointly have significant market power even if they do not have this individually"[9]. The criteria for proving joint SMP follow, as described in the analysis of the Airtours case, and are more extensive than the criteria for proving that an operator has significant market power alone.

In the analysis, Nkom has described why various forms of refusal of access to the radio network are assessed to be the most relevant focal point for an assessment of joint SMP. Refusal of access to co-location could possibly have been assessed to be an alternative focal point, but again this would have excluded that Telenor could simultaneously have individual dominance within Market 15, as the market is defined today. In an assessment of denial of access related to co-location, many of the same assessments as for access to the radio network would have applied. A shared interest in preventing the development of a third network is not sufficient basis to conclude that the operators will coordinate themselves in the absence of regulation[10].

[7] BAHR 22 January 2019: "In the current market analysis of 1 July 2016, Nkom concluded that Telenor has individual dominance in the wholesale market (Market 15) overall, including the market for co-location. Ice shares the view that Telenor holds SMP in the wholesale market in general (including before co-location). Ice's experience as a customer in the interconnection market is that Telenor and
Telia also have joint SMP within the provision of co-location services."

[8] Proposition no. 58 (2002-2003) to the Odelsting, pp. 98-99.

[9] Proposition no. 58 (2002-2003) to the Odelsting, p. 98.

[10] Item 67 of the SMP Guidelines: "It is not enough for each member of the dominant oligopoly to be aware that interdependent market conduct is profitable for all of them but each member must also have a means of knowing whether the other operators are adopting the same strategy and whether they are maintaining it."

With regard to transparency, it is doubtful that prices and terms for co-location can be claimed to be transparent enough to form the basis for lasting coordinated behaviour. Even though Telenor publishes its standard rental rates for co-location, the prices and terms for capacity expansion are not available. Telenor and Telia buy co-location from each other, so that they are familiar with each other's prices in this way, but this does not give them any knowledge of which capacity expansion offers are made to other operators. Capacity expansion may be relevant for new requests and also in cases where operators that are already positioned may need additional capacity. Furthermore, the fact that Telia has separated the mast activity into a separate company, Telia Towers, which handles co-location for Telia and other operators, probably diminishes the opportunities and incentives for cooperation.

For co-location, there are also more operators than the three mobile network owners. Bane Nor and Nødnettet are alternative providers, as well as landowners and building owners that offer space for antennas and other equipment. There will thus be many operators that might still disrupt any tacit cooperation to prevent co-location for the third network. The fact that the supply side consists of more operators than for the provision of access to the radio network also indicates that joint SMP for co-location requires a separate market definition and analysis of the terms of competition, as Nkom has signalled in the market analysis.

Nkom has not received any consultation responses that provide a basis for changing the conclusion in relation to joint SMP. Based on the responses to the assessment of joint SMP, a few minor adjustments have been made to the text.

6 Description of competition problems

Assessment and conclusion in the notification of a decision

Nkom is of the view that there are several issues related to the vertical transfer of market power and single market dominance that represent serious potential competition problems in the relevant market. Nkom believes that this is supported both by the incentives the market structure provides and by examples of behaviour from the current regulatory period.

Consultation comments

Telenor is of the view that no competition problems have been documented that warrant the notified remedies and that the remedies are not proportional to the competition problems stated.

Atea, Fjordkraft and **Phonect** write in their comments on Telenor's consultation input that they disagree with Telenor that there are no competition problems in the mobile market. Reference is furthermore made to how only 3.4 per cent of revenue in the market in 2018 was delivered by other operators than Telenor, Telia and Ice, and that Ice delivered 5.4 per cent of the mobile services. The operators believe that the mobile market almost functions like a duopoly.

Nkom's assessment

Nkom disagrees with Telenor that no competition problems have been documented in the market, to provide a basis for the notified remedies. It is sufficient that a competition problem can potentially arise in certain conditions, and abuse of market power need not have taken place. For each of the specific obligations, Nkom has assessed whether the remedies are proportional. Telenor's comments do not provide any basis for changes to the decision.

7 Choice of specific obligations

7.1 General comments on the choice of specific obligations

Assessment and conclusion in the notification of a decision

Nkom has concluded that the main principle for the choice of remedies should still be Principle 3, or in other words the facilitation of the creation of infrastructure. Furthermore, Nkom is of the view that the remedies must facilitate incremental investments in infrastructure, referred to as the investment ladder. In the absence of efficient competition to offer network access, the remedies must also ensure that access buyers can compete in the market on sufficiently good terms. This entails that the remedies must also observe Principle 2.

In the notification, Nkom has also described how the proportionality principle entails that obligations that are stricter than necessary may not be imposed.

Consultation comments

Telenor believes that the alignment of the proposed remedies is not appropriate to achieve the main purpose of regulation or the political objective: to stimulate the development of the third network. Oslo Economics comment on the choice of regulation principle in their report, in which they write that today Ice is on track in establishing a third mobile network in Norway and that the objective of three national networks is thereby within reach. In this light, the regulation should be aligned towards Principle 3, so that as soon as possible Ice can establish a competitive alternative to the two other networks. Oslo Economics also writes that Nkom itself points to how access buyers are important customers for network owners, which indicates that today's network owners will have incentives to compete for these access buyers. It is therefore difficult to see that the application of Principle 2 can be justified. It seems as though Nkom is assuming that more customers in the wholesale market will strengthen Ice's incentive to expand its own mobile network. This is a very partial argument, however, that takes little account of how the market functions. For Ice, the prospect of serving many of their own customers in the network will to the greatest extent govern the incentives to invest in their own mobile network. For their own customers, Ice will have both a "wholesaler and retailer margin". This is not discussed by Nkom, nor is the extent to which the application of Principle 2 is appropriate to impair the efficacy of the remedies for Principle 3.

Atea, eRate, Fjordkraft, Happybytes and **Phonect** refer to how Nkom wishes to stimulate competition for services and innovation at product level for forward-oriented mobile services. According to these operators, it is vital to facilitate and stimulate that operators can become established with framework conditions that provide for profitability, sustainability and innovation, even without being a network owner.

eRate also writes that the third network will not itself drive competition. The market is large enough to be shared between three operators. On the other hand, in the longer term the competition that Ice can create through access buyers and wholesale pricing could change the competition dynamic, so that the market tends towards sustainable competition. The smaller access buyers will drive the competition within the three networks that will then be available. The challenge now is that the two existing networks in Norway are over-invested with regard to use and load, and they are among the world's best and most solid networks. This makes Ice's task considerably more difficult, and it will take many years for Ice's infrastructure to become an important factor in the development of sustainable competition in the market.

eRate believes, however, that there should be a greater difference between MVNO access and service provider access. Regulation of the service provider must be tightened further, but even more towards MVNO. eRate is convinced that in a future with NB-IoT, LTE-M and 5G, and the pace of technology development, operators must invest upwards in access type in order to contribute positively to the competitive arena. Principles from previous decisions concerning the investment ladder must thereby be taken back. MVNOs are often industrial, long-term operators that will contribute to competition and innovation over time.

eRate comments on Telenor's assertion that the market development shows that there is competition in the retail market. eRate believes that the competition in the retail market is due to the fact that there are many new entrants through eRate. This indicates that there must be access regulation for MVNOs and service providers, and that it must be tightened, so that competition is maintained and becomes sustainable.

Fjordkraft and **Phonect** write in their comments on Telenor's consultation input that Telenor limits the main objective of the regulation to stimulating the development of the third network. Fjordkraft and Phonect take the view that the main objective of regulation is to stimulate increased competition in a market with only two major operators, and that the establishment of the third network is only one of the remedies to achieve increased competition. The market relies on several operators to create a functioning market. It is therefore important that other operators have the opportunity to offer services through various access types. This is also supported by **Atea** and **eRate**.

Ice writes that one main purpose of the regulation of Market 15 must be to facilitate competition between three independent mobile operators in the Norwegian market, so that regulation can be discontinued in Norway just as it has been for many years in most European countries. Ice believes that regulation must be concentrated on Principle 3.

Nkom's assessment

The consultation inputs show that the operators are divided in their view of how sustainable competition should be achieved, including which regulation principle should be applied. In contrast to Telenor and Oslo Economics, Nkom is of the view that there are several reasons indicating that weight should also be given to Principle 2 on choosing remedies, in addition to the establishment of infrastructure (Principle 3). In anticipation of sustainable competition, facilitation for access buyers will be important for both competition and innovation in the retail market, while in the long term these access buyers can become important customers for the third network.

For a network owner, including the third network, it is more profitable to have their own retail customers than wholesale customers, as Oslo Economics writes. Nonetheless, wholesale will be a way for a new network owner to fill the network with traffic more quickly. In anticipation of sustainable competition, Nkom thus takes the view that it is important to facilitate that access buyers have adequate terms for their establishment and competition in the market. Nkom is of the view that the notified decision has found a sensible balance in the choice of principle for the use of remedies. Oslo Economics' comments on how the combination of remedies does not facilitate infrastructure competition are commented on further in Chapter 8 of this summary.

With regard to eRate's input concerning differentiation of the use of remedies in order to provide incentives for investment, Nkom refers to how the price regulation for service providers and MVNOs seeks to address this by requiring access prices for MVNO access to pass a full margin squeeze test, while access prices for service provider access must only fulfil the requirement of a positive gross margin. Furthermore, Nkom requires that Telenor's access prices for service providers may not be more attractive than for MVNOs. Nkom thus believes that the ladder of investment theory is taken into account in the regulation.

Concerning eRate's comment that the regulation should be further tightened, Nkom refers to the changes in the size of the modelled operator, both for MVNO and service provider, from a 5-per-cent to a 3-per-cent market share. Nkom has also made changes in the margin squeeze test associated with the costs of international roaming, which will more closely reflect the real cost picture for operators with MVNO access. Nkom is of the view that these changes are necessary and adequate to achieve the purpose of regulation.

Nkom has not received consultation inputs that provide any basis for changes in the choice of regulation principle, but some minor adjustments have been made to the text in Chapter 6 of the decision.

7.2 Access

Assessment and conclusion in the notification of a decision

In its notification, Nkom concluded that a requirement should be imposed on Telenor to comply with any reasonable request for access to and call origination on its mobile network. Requests for national roaming, MVNO access, access for service providers and co-location will normally be considered reasonable. Nkom has specified the access obligation in several areas, including prohibition of unfair terms and prohibition of negotiation and delivery exclusivity and migration.

Below, Nkom discusses the consultation responses received for each of the different forms of access.

7.2.1 Access to national roaming

Consultation comments

Telenor is of the view that it is disproportionate to have a general requirement for two-way handover by default throughout the network. According to Telenor, there are technical solutions for seamless handover of calls. The requirement is that the entire call is controlled by the Packet Data Network Gateway (PGW) owned by the buyer of access to Telenor's network. Whether this is feasible in practice will not be clear until after negotiations and technical tests with national roaming have taken place. Telenor furthermore writes that there may be cases where Telenor has to re-define the handover opportunities (neighbour conditions) for its own customers, to make room for the national roaming operator. Telenor is of the view that it is not reasonable that Telenor's own customers should experience significantly more interrupted calls as a consequence of this re-defining of neighbour conditions.

Oslo Economics also writes in its report that in order to achieve the goal of infrastructure-based competition, the regulation should be concentrated on securing Ice the opportunity for national roaming, as well as facilitating low development costs through co-location.

Ice points out that national roaming (together with co-location) is the most central obligation to achieve the objective of sustainable competition, and that the remedies are therefore designed with this as the starting point.

In the comments on the consultation responses, Ice writes that even though Ice today has an agreement with Telia that has been entered into on commercial terms, this cannot be taken to indicate a functioning market, and that Ice can expect further access to national roaming on reasonable and efficient terms from Telia or Telenor, if the regulation is discontinued in this respect. The reason is that the current regulation of Telenor provides an alternative for Ice if commercial negotiations with Telia are unsuccessful. It is thus highly uncertain whether Ice could have achieved equivalent terms in the agreement with Telia, in the absence of regulation of Telenor. According to Ice, it is therefore important that also in the forthcoming regulation period Telenor is required to offer national roaming on terms that do not weaken the incentives for further development of the third network, and which at the same time give Ice the opportunity to compete efficiently for as long as the company still has a need for national roaming.

Ice is also positive about Nkom's statements concerning the requirement for seamlessness with two-way handover and believes this is a significant requirement for the roaming operator to be able to retain as much traffic as possible in their own network. Ice proposes that it be emphasised in the final decision that requests from an access buyer to control traffic with their own PGW would normally be reasonable.

Ice furthermore believes that a request which entails blocking access in specific geographical areas must always be reasonable. [redacted]

Ice requests that it be emphasised that where, for example, functionality, interface or administrative processes already exist in the market for national roaming and related cooperation, a request must always be considered reasonable.

Nkom's assessment

A request for national roaming will normally be reasonable. In cases where functionality, interface or administrative processes already exist in the market, it will take a lot for a request not to be reasonable. Nkom is nonetheless of the view that a request is not automatically deemed to be reasonable, since there might be conditions for both the network owner and the access buyer that might potentially affect the concrete assessment. Nkom therefore does not accommodate Ice's proposal that such a request is always reasonable.

In the decision, Nkom has uphold that a request for two-way seamless handover will normally be reasonable. This nonetheless entails that there might, exceptionally, be conditions causing such a request not to be reasonable. Compliance with this obligation will of necessity require further dialogue between Telenor and the access buyer requesting two-way seamless handover, among other things when it comes to negotiations and technical tests, and will of necessity reduce the risk of "significantly more interrupted calls". Nkom is thereby of the view that Telenor's input regarding the challenges of two-way seamless handover have already been addressed.

Nkom furthermore believes that a request from the access buyer to control traffic using its own PGW would normally be reasonable, but also does not exclude that future technology development may entail that traffic could be controlled by other means than with the access buyer's own PGW. On this basis, Nkom does not consider it appropriate to set requirements for specific technical implementations in the decision, based on current technology, even though it is generally positive that the access buyer manages its own customers' traffic in the networks visited. Nkom therefore does not accommodate Ice's proposal to specify in the decision that it must normally be considered reasonable to control traffic with its own PGW.

Nkom has thus not received any consultation input that provides a basis for changing the notified obligations associated with access to national roaming. On the basis of the comments on the notified obligation, a few adjustments have been made to the text of the decision, however.

7.2.2Access for MVNOs and service providers

Consultation comments

Telenor is of the view that regulation which facilitates both competition for services and infrastructure competition entails two conflicting objectives. When Nkom notifies remedies to facilitate competition for services, the opportunity to achieve infrastructure competition is also reduced. The use of remedies makes it more difficult for the third network to offer wholesale access. Operators can thereby offer a subscription on Telenor's network at prices that it is difficult for the third network developer to meet. Telenor therefore believes that the access obligation for MVNO and service provider should lapse, since they do not support the main objective of sustainable infrastructure competition.

Atea, eRate and **Happybytes** emphasise that imposing a general access obligation on Telenor for service provider and MVNO is vital to promoting innovation and competition in the market. eRate points out that being a service provider entails significant investments, but lower compared to MVNOs.

Nkom also refers to the summary in Chapter 7.1, in which the operators' input on the choice of regulation principle is included, including the need to facilitate access buyers on existing infrastructure. Furthermore, Oslo Economics' comments on how the combination of remedies does not facilitate infrastructure competition are commented on further in Chapter 8 of this summary.

Nkom's assessment

Nkom understands Telenor's argument that access regulation for MVNOs and service providers, under certain conditions, may adversely affect the third network's competitiveness in both the wholesale market and the retail market. In the case of the wholesale market, however, in several instances Ice has expressed how the need to buy national roaming means that Ice has not been able to compete in this market. Nkom also refers to the assessments in the analysis in Chapter *4.3.5.4 The significance of Ice's mobile network in the wholesale marke*t, in which Nkom refers to several factors pointing towards how it will still take time for Ice to become a competitive operator in the wholesale market. On this basis, Nkom believes there is a need for access regulation for MVNOs and service providers and that it is nonetheless not access regulation that prevents Ice from offering access to external wholesale customers.

Nkom also disagrees that it is the competition from MVNOs and service providers that makes it particularly difficult for Ice to compete in the retail market. The market shares of MVNOs and service providers are very limited and by no means represent the greatest competition for the third network.

Nkom has not received any consultation input that provides a basis for changing the notified obligations concerning access for MVNOs and service providers.

7.2.3 Access to co-location

Telenor and Ice have provided extensive comments on the access obligation for co-location, and also comments on each other's consultation input.

Below, Nkom thematically summarises the comments from Telenor and Ice.

7.2.3.1 Overall comments

Consultation comments

Telenor in principle disagrees that the co-location obligation entails a capacity expansion obligation, if the request is otherwise reasonable.

Ice believes that effective regulation requires that an obligation is imposed on both Telenor and Telia to accommodate reasonable requests for co-location. The obligations that are imposed must also be designed more clearly and Ice refers to how the discussion in the chapter uses such terms as “should” and “Nkom is of the view”. Further, Ice refers to how in a ruling of 12 December 2018 the Borgarting Court of Appeal questioned the validity of the obligation imposed by Nkom in the light of its discursive nature.

Nkom’s assessment

Nkom refers to how the understanding of the co-location obligation was maintained in the Ministry of Transport and Communications’ appeal decision of 9 March 2018. This also includes the capacity expansion obligation in specific situations. Concerning Ice’s general input, Nkom refers to how the access obligation for both Telenor and Telia requires a conclusion concerning joint SMP and that this assessment has been made in Appendix 1 to the decision (the market analysis). Furthermore, Nkom has clarified the obligations in the decision, where relevant. We also refer to how the specific access obligations are stated in Chapter 7.1.9 of the decision.

7.2.3.2 Choice of capacity expansion solution

Consultation comments

Telenor has the following comments on alternative capacity expansion solutions:

- Setting up a new mast for the requesting provider, rather than replacing a mast, presents a number of challenges: the existing land ownership rights may need to be extended, there will often be no dispensation for a new mast close to the existing mast, new masts may give rise to shadow effects and noise for existing antennas, and there is too little radio isolation between the masts.

- The requirement to consider the merits of the use of outdoor enclosures is unnecessary and ineffective and should not be maintained in final decision. Telenor always seeks to place equipment inside the cabins to ensure a comprehensive and harmonious solution that does not conflict with landowner agreements, permits from municipalities, other installations in the cabin, environmental considerations and safety aspects. The simplest and cheapest solution will be refurbishing/cleaning-up the cabin. If this is not possible, a cabin extension is the next choice. Outdoor enclosures are best suited for urban areas and in connection with roads and industrial areas.

Ice emphasises the need for a significant tightening of the obligations where the request for co-location requires capacity expansion. On assessing a reasonable request, not only the existence of alternative placements will be an assessment element, but also the costs of expansion at alternative locations. Moreover, it is unclear what Nkom means by stating that "as a starting point" the simplest and most inexpensive measures must be chosen. There is no discussion of when there may be a reason to deviate from the "starting point". Unclear access to select more extensive measures creates unfortunate incentive effects. A new decision must therefore clearly stat that the simplest and least expensive measure for the requester must be chosen on any capacity expansion, unless Telenor wishes to undertake more extensive measures for its own account. Furthermore, the requester must have the opportunity to verify the assessments made by Telenor in terms of choosing the least expensive and simplest alternative, and must have the right to give input on alternatives that might contribute to reducing the price of the capacity expansion.

Ice also emphasises that, in cases where the use of outdoor enclosures is the simplest and most inexpensive alternative, they should be used. If this principle is to be waived, Telenor must in such case be able to justify it. A standardised approach whereby outdoor enclosures are rejected on a general basis will be in conflict with both current regulation and the principle of the most inexpensive and simplest alternative.

Ice furthermore believes that antenna replacement will not normally be unreasonable. Telenor must be required to perform a real technical analysis of the opportunities for antenna replacement, which it must be possible to present to the requester and supervisory authority.

Nkom's assessment

The objective of co-location is to facilitate efficient infrastructure development. The principle that the simplest and most inexpensive capacity expansion measure must be chosen is a natural starting point in the light of this objective. Nkom acknowledges, however, that several conditions should be taken into consideration on assessing alternative capacity expansion solutions, but believes that the costs of the measure should weigh heavily in any such assessment. In other words, there are exceptions from the starting point that the simplest and most inexpensive solution is to be chosen. In the decision, Nkom has described various conditions that must be taken into account in any assessment of various co-location solutions. Specific assessment in each case will always be required, however.

The use of outdoor enclosures was named in the notification as a reasonable solution, but there may still be conditions that make this less applicable. If an area is defined, for example, as an LNFR area, [11] an exemption will have to be applied for under the Norwegian Planning and Building Act for construction activities which lie outside the field of local commerce and industry. Nkom understands that, in such cases, Telenor will have to apply for an exemption for the installation of outdoor enclosures and for any expansion of the cabin, however an application for outdoor enclosure will in many cases be rejected due to the impact on the environment. In such cases an expansion of the cabin will be the most efficient solution. An outdoor enclosure can still be relevant in more urban areas and close to roads and industrial areas. Nkom therefore upholds the requirement that Telenor must make a concrete assessment of the use of an outdoor enclosure when this is requested. In all cases where the simplest and most reasonable prices solution is not chosen, Telenor should substantiate the choice for the applicant.

Antenna replacement is discussed in the notification as one of the most invasive forms of capacity expansion. Any such measure is only relevant if less invasive measures are not relevant. If antenna replacement is the only solution and Telenor refuses this solution, the refusal will have to be documented in line with the requirements in the decision. A technical analysis may be required to substantiate the refusal.

Ice is of the view that the requester must be able to review the assessments made in terms of the choice of capacity expansion solution and have the right to provide input on alternative solutions. In Nkom's view, imposing an obligation on Telenor to document the costs of any

[11] Area set aside for agriculture, nature, outdoor activities and reindeer herding.

alternative capacity expansion solution would not be effective use of resources. In this respect, Nkom refers to how Telenor offers Ice monthly cooperation meetings with a review of options and limitations concerning placement at specific stations. Nkom considers this to be a more effective way to ensure that alternative solutions are assessed.

Based on the comments from Telenor and Ice, Nkom has updated the text of the decision with regard to capacity expansion.

7.2.3.3 Placement and relocation of equipment

Consultation comments

Ice believes that on any capacity expansion financed by the requester, it is clearly unreasonable that Telenor should be able to select a new location, since it must be assumed that, in principle, from a cost-benefit perspective, Telenor has already selected the length of an existing mast and location, based on the company's needs. A right for Telenor to choose the location in the expanded capacity will also have adverse incentive effects, since it may give Telenor a motive to require capacity expansion/mast extension, even if this is not strictly necessary. This is also an easing of the current regulation. A mast extension gives increased rental income for Telenor. If Telenor also gains the right to choose a new position and have the costs of this covered by the access buyer, this entails that the company will also have improved coverage at Ice's expense.

Any such right will entail distortion of competition, to the benefit of the dominant supplier. The final decision must state that the party that pays construction contributions on any capacity expansion has the right to choose location in the capacity that is developed. If Telenor chooses to move equipment to expanded capacity (which has not been taken into use by the party requesting co-location), Telenor must cover all of its own costs associated with moving the equipment.

Telenor believes that their right to select location after capacity expansion is in harmony with other countries' regulation. Such a right does not give Telenor any incentive to require mast extension, since unnecessary mast extension would not have won ground in Telenor's investment fora. Mast extension is rarely a relevant solution, since extension requires much of the total capacity of the mast and there will be little remaining capacity. Reducing the mast height is just as relevant to free up capacity.

Telenor also believes that the requirement for Telenor to cover its own costs as a consequence of Telenor's relocation of its own equipment on any capacity expansion is an intervention in Telenor's right to control its own infrastructure, for which the Electronic

Communications Act does not provide. Today, Telenor already goes far in that Telenor covers around half of the costs of moving its own antennas higher up the mast, antenna cables to be exchanged, and antenna that must be dismantled and installed.

Furthermore, on any mast extension, the infrastructure for the digital terrestrial network and digital radio must be moved to the top of the mast, to ensure adequate quality, redundancy, coverage and capacity. Omnidirectional broadcasting antennas and emergency network antennas must also be moved up after the mast extension. Telenor has no own benefit from this and believes the requesting provider must cover the costs.

Ice comments that exceptions from the rule that Telenor itself must cover the costs of moving its own equipment may only apply when such relocation is obviously necessary to maintain the existing quality of the signals that are transmitted. If Telenor (or Norkring) chooses to relocate equipment for any other reason, such as to improve quality, the company itself must cover the costs associated with relocation.

Nkom's assessment

On any capacity expansion, including mast extension, Nkom will maintain that Telenor has the right to choose its location in cases where they own the mast. The access obligation for co-location entails that in some cases Telenor will have to make changes to its property. The purpose of the co-location obligation is for the access buyer to have a cost-efficient opportunity to build competing mobile networks through the right to location of their own equipment. To achieve this purpose, it is not necessary for the requester to locate in the extended part of the mast. Nkom maintains the main principle that Telenor itself must cover the costs of moving its own equipment to the extended part of the mast. In such a situation, the purpose of the access obligation will still be achieved, since effective location access is given. For the access buyer, this is subject to the condition that the result is still better than if the location at Telenor was not possible and the access buyer then had to build its own mast or locate it elsewhere.

Nkom acknowledges, however, that in this respect too, other conditions may entail that it is not reasonable that Telenor is burdened, for example if the relocation of equipment is necessary in order to maintain existing quality, redundancy, coverage and capacity.

On the basis of the comments from Telenor and Ice, Nkom has updated the text of the decision with regard to location and relocation of equipment.

7.2.3.4 Duty to disclose information

Consultation comments

Ice believes that the duty to disclose information must also include the duty to disclose construction drawings for mast, tower or the infrastructure in which location is sought, so that the requester has the opportunity to assess the basis for any rejection. A duty must also be imposed to disclose such information within 14 days of the placement request.
Ice also writes that refusal of the request due to a lack of capacity must be documented and substantiated specifically in each case. Any such grounds must state which alternatives have been assessed and why these alternatives are not viable.

Telenor comments that it is neither appropriate nor necessary to disclose construction drawings of masts and tower**.** Telenor instead offers monthly cooperation meetings with a review of opportunities and limitations concerning location at specific stations. So far, Ice has not yet availed itself of this offer.

Nkom's assessment

Nkom cannot see any need for construction drawings to be disclosed prior to requests for co-location, in contrast to the requirement imposed on Telenor for mast drawings or equivalent information. On any refusal of a request, however, Telenor has a duty to give grounds for the refusal, including by providing all of the information necessary to assess the basis for the refusal. Construction drawings can thus be relevant information that, according to the obligation, must be included in the basis for the refusal.

Nkom finds it reasonable to comply with the proposal from Ice of a 14-day deadline to disclose the information necessary to initiate a request. Telenor has not commented on this. Nkom has thereby included such a deadline for submitting the necessary information in the decision.

7.2.3.5 Processing time for co-location requests

Consultation comments

Telenor refers to Nkom's requirement for a maximum of six weeks' processing time for requests for location, and requests that Nkom adds a condition that the requesting party must submit its forecasts for the number of requests to Telenor a minimum of three to six months before the request for access is made. This will make it more achievable for Telenor to comply with a requirement of maximum six weeks' processing time.

Ice is of the view that the submission of forecasts, as proposed by Telenor, may not entail that Telenor can require the access buyer to state exact locations, but solely a forecast of the number of positions. It is nonetheless important that the forecasts given are treated as confidential and do not flow to competing activities internally within Telenor. Furthermore, Ice makes ongoing adjustments to development plans, which entails that the volume of requests can be changed upwards or downwards. This excludes any requirement for forecasts to be exact, but only that such forecasts must be given to the best of their ability. It should therefore be stated in the final decision that the requirement of a processing time for requests can only be deviated from in the case of significant deviations from the forecast submitted, and that requests must nonetheless be processed as quickly as possible in practice.

According to Ice, the processing deadline for co-location requests should be a maximum of four weeks, and the processing must be performed at least as effectively as for Telenor's internal operations.

Telenor believes that Ice does not state why the processing deadline should be set at four weeks. Telenor describes how different requests require different measures and assessments. So far, the case processing time at Telenor does not seem to have been a limiting factor for Ice.

Nkom's assessment

In the decision, Nkom will maintain a six-week deadline for processing location requests. In Nkom's view, this is a reasonable deadline based on experience from the processing times of the three network owners in previous cases, and the need for rapid clarification for Ice. Nkom thus does not uphold Ice's input concerning a deadline of four weeks for processing. For the processing of applications to be effective and so that Telenor can comply with the deadline, Nkom is of the view that Telenor's request for forecasts of the number of requests at least three months in advance is reasonable. In the decision, Nkom has upheld that weight can be given to submitted forecasts of the number of locations in advance if Telenor does not comply with the six-week deadline for processing the location request.

7.2.3.6 Reservation right and reporting

Consultation comments

Ice believes that the reservation access should not be continued in the new Market 15 decision, but replaced by clear ordering procedures. Nkom should regulate procedures for the visualisation of released locations and the ordering of space that, in line with the non-discrimination principle, must apply to the operator's internal and external orders. An ordering

scheme as suggested will be more transparent and prevent misuse of reservations to secure space. Ice furthermore expects that Nkom will follow up Telenor's statement concerning its own reservations in the letter of 27 February 2019,
and enforce the current regulation, including sanctions if it turns out that practice is contrary to current regulation. It must also be made clear that a reservation (if permitted) must be clearly dated (so that it can be documented when it expires) and cannot be renewed except in exceptional circumstances. It is also important that Nkom specifies that information concerning requests is treated as confidential, so that these requests do not flow to internal competing activities, including people and environments at Telenor that take part in radio planning.

Ice also refers to the letter of 22 January 2019 in which Ice proposes that an operator with significant market power must keep a register of requests, offers and orders (and possibly reservations, if Nkom provides for this) and be able to present this to Nkom for inspection, among other things to document that there is no discrimination between internal and external requests.

Telenor comments that the reservation right is important in Telenor's radio planning and investment, in order to cover future needs for development of, among other things, 5G. This principle is recognised in the legislation of Nordic neighbouring countries.

Nkom's assessment

Nkom assesses that it is only if reservations entail refusal of a request, or that the request requires capacity expansions, that there may be a need for documentation to the requester in order to prevent discrimination. The decision already requires documentable development plans before a reservation right can be maintained at the expense of a request. The documentation requirements in the decision Chapter 7.1.5.5 also include the requirement that, if reservation is a reason for a refusal or construction contributions, this must be documented, and it must be shown when the reservation right expires. Nkom takes the view that this is the most effective way to follow up on equal treatment and does not find it appropriate to require that a register of requests be kept.

Nkom has a need, however, to follow up that the co-location obligation functions effectively. Nkom therefore imposes the requirement on Telenor to report semi-annually on the processing of co-location requests. Telenor must, among other things, report the number of requests received, their average processing time, the number of requests granted, the number of requests with construction contributions, and the number of refused requests. Nkom is of the view that such reporting will be a good starting point for further follow-up on the co-location obligation.

7.2.4 More about the access obligation

In the notification, Nkom has described and specified individual aspects of the access obligation in further detail. Below, Nkom's conclusions and consultation input related to the prohibition of unfair contractual terms, negotiation and delivery exclusivity, and migration, are stated, together with Nkom's assessment.

7.2.4.1 Prohibition against unfair contractual terms

Consultation comments

Telenor is of the view that Section 4-1 of the Electronic Communications Act does not authorise the opportunity to impose a general obligation on Telenor such as the prohibition against unfair contractual terms, as stated in clause 7.1.7.1 of the notification, and refers to statements from the Appeal Court, in LB-2017-72236, which pronounced that it must be upheld that certain requirements must be made concerning the clear content and precision of the obligations imposed. Reference is also made to Proposition no. 58 (2002-2003) to the Odelsting, pp. 100-101. Telenor is furthermore of the view that such a general and unpredictable obligation is not appropriate to create the regulatory predictability that Nkom believes can only be covered by ex ante regulation.

Nkom's assessment

A requirement for reasonable terms in the current Market 15 decision was maintained in the Ministry's appeal decision[12], and Nkom refers to the discussions therein (pp. 37-40). The Ministry concludes that the Electronic Communications Act authorises the authority to make the advance requirement that reasonable requests to enter into or change an access agreement must be accommodated with reasonable terms, cf. Section 4-1, first paragraph, cf. Section 3-4, third paragraph.

Nkom also refers to how Telenor has promoted equivalent submissions as in the present case in connection with the appeal of decisions in Markets 3a and 3b[13]. In this regard, we refer to the assessments made by Nkom in the appeal submission to the Ministry in Markets 3a and 3b on pp. 31-32[14]. In the submission, reference is made to the ruling from the Borgarting Court of

[12] Decision in the appeal case concerning Nkom's decision on the designation of an undertaking with significant market power and imposing specific obligations in the market for access to and call origination in public mobile communications networks (formerly Market 15), dated 9 March 2018.

[13] Appeal – Decision on the designation of an undertaking with significant market power and the imposition of specific obligations in the wholesale markets for local and central access to fixed access networks (Markets 3a and 3b), dated 21 January 2019.

[14] Submission of Telenor's appeal concerning Nkom's decision in Markets 3a and 3b, dated 29 March 2019.

Appeal of 12 December 2018[15] concerning the dispute between Telenor and Telia about the payment obligation for SIM card fees on the transfer of customers from Telenor's to Telia's mobile network. In the ruling, the court among other things discusses whether Nkom is authorised under Section 4-1 and Section 4-6 of the Electronic Communications Act, together with Articles 12 and 9 of the EU Access Directive, to impose obligations concerning the content of Telenor's access agreements. Page 25 of the ruling states:

> *"In the assessment by the Court of Appeal, Section 4-1 of the Electronic Communications Act, interpreted in the light of Article 12 of the Access Directive, gives sufficient authority to impose obligations that also apply to the content of contractual terms concerning access to mobile networks. In this respect, the Court of Appeal endorses the Ministry's aforementioned assessment in relation to the Market 15 decision from 2016."*

Nkom believes that the regulatory predictability and the fundamental requirement of clarity are provided for in the notification. To a somewhat greater extent than the current Market 15 decision, in the notification Nkom has defined what the prohibition entails and believes that the obligation is formulated with sufficient precision. Nkom refers to the fact that the access obligation in itself entails certain requirements, and that a more detailed prohibition against unfair terms may also provide increased predictability. In this context, Nkom also refers to how in Norway, unlike several other countries, there is no advance approval of standard terms. In practice, this entails that Nkom does not know which terms will apply going forward. This flexibility for Telenor also increases the need to protect access buyers from unreasonable terms, which can also contribute to increased predictability for access buyers.

Nkom has also made some adjustments in the other requirements related to reasonableness, that an also contribute to increased predictability

Nkom is of the view that Telenor's consultation input does not provide any basis to change the earlier conclusion, and the notified prohibition against unfair contractual terms is maintained.

7.2.4.2 Prohibition of negotiation and delivery exclusivity

Consultation comments

Telenor is of the view that Nkom does not have the authority to impose on Telenor such a far-reaching prohibition against delivery exclusivity as stated in the notification. The obligations are not in line with the purpose of facilitating sustainable competition, in that they are suitable

[15] LB-2017-72236

to weaken network owners' incentives to compete concerning the infrastructure. Telenor is of the view that exclusivity obligations are necessary on the sale of wholesale services, to ensure sustainable competition. Telenor has learned that under the current regulation it is very difficult for Telenor to control whether access buyers comply with Telenor's protection-worthy interest by requiring delivery exclusivity. Telenor also asserts that the access buyers appear to lack incentives to comply with the requirements and that this enhances Telenor's need to draw up terms in the access agreements in a way that safeguards Telenor's protection-worthy interest on selling access, and which also prevents access buyers from achieving an unjustified competitive advantage.

As the regulation of delivery exclusivity is designed today and notified for the coming regulation period, Telenor must have detailed information about the access buyers' retail operations (such as customer contracts, time and cover terms) to be able to check that the requirements are complied with. Telenor refers to a previous case in which the winner of a competitive tender had offered access to both Telia's and the Telenor's networks. The regulation must facilitate that Telenor has the opportunity to control compliance with contractual terms and be able to sanction any breach.

Nkom's assessment

Nkom refers to the specifications of delivery exclusivity in the current Market 15 decision, and in the Ministry's appeal decision (see appeal decision, item 6.4.4, pp. 40-47). The Ministry among other things maintained the following:

> *"In summary, the aforementioned entails that the Ministry maintains Nkom's assessment that Telenor can only require delivery exclusivity at SIM level when it comes to offers of coverage in multiple mobile networks subject to the same subscription conditions, and that access to Telenor's mobile network cannot be offered together with coverage in other external mobile networks in the same retail market, cf. Section 4-1, cf. Section 3-4, of the Electronic Communications Act. This applies to Telenor's individual access agreements and to reference offers concerning access, cf. Section 4-6, cf. Section 4-1, of the Electronic Communications Act."*

The Ministry has thus determined that Nkom has the authority to limit Telenor's access to require exclusivity.

Telenor has referred to a specific case of breach of an exclusivity obligation during the current regulation period. In addition, Telenor has named another case in which Telenor believes that this has probably occurred. Nkom acknowledges that Telenor has a protection-worthy interest in setting certain delivery exclusivity requirements, cf. item 186 of the notification. At the same time, the current regulation period has shown that Telenor has set the condition of exclusivity beyond what is permitted, cf. Nkom's imposition of a rectification requirement of 12 July 2019.[16]

According to Nkom's assessment, the experience during the current regulation period showed a need for a degree of simplification related to the limitation of exclusivity clauses. Nkom therefore notified simplifications in the form that only the specified forms of exclusivity must be permitted. This will also contribute to increased predictability for access buyers. Nkom also refers to how Telenor has previously stated that the specifications in the current Market 15 decision were challenging to relate to, and that there was a need for clarification.

Nkom has decided that there is a need for a degree of simplification of the provisions concerning exclusivity, so that Telenor is not allowed to use exclusivity in relation to subscription conditions. Nkom has also removed the discussion of exclusivity on corporate level as only the specified forms of exclusivity are allowed.

7.2.4.3 About migration in particular

Consultation comments

Telenor is of the view that it is unclear what is included in Nkom's notified clarification relating to how access buyers, with the exception of the initial establishment of an access agreement, must have the opportunity to migrate the customer base to another host operator "at any time", "provided that the terms of the agreement are otherwise met". It may seem that these access buyers can initiate migration at any time during the contractual term, which is not very predictable for Telenor and imposes a great (all) commercial risk on Telenor.

Telenor also believes it is unclear what Nkom means by an access buyer in the business segment being entitled to a migration period of at least 12 months, but that longer migration periods "according to the circumstances" might also be reasonable.

In Telenor's view, the requirements concerning migration are not very balanced and are not in harmony with Nkom's apparent requirement that the terms should be in accordance with what would have been offered if the market was subject to competition. Telenor is not aware that these are terms found in Sweden and Denmark, for example, where the Market 15 regulation has been discontinued.

The condition that new sale during the migration period only takes place for the host operator to which migration takes place is absolutely necessary, but not sufficient to prevent misuse by

[16] The decision has been appealed by Telenor.

access buyers during any such migration period. A long migration period as proposed by Nkom in the notification makes it very challenging to control compliance with Telenor's protection-worthy interest in setting delivery exclusivity requirements and will expose Telenor to far greater risk of misuse by access buyers. The conduct of access buyers at Telenor in the current regulation period shows that the risk of such misuse is very real.

Telenor believes that migration for other parties than first-time buyers creates little predictability for Telenor concerning the length of the actual migration period, but also the length of the agreement and the commercial basis for the agreement. Telenor is of the view that it will be neither reasonable nor necessary to have such requirements to ensure sustainable competition, and they do not appear to be in accordance with offers of access in other non-regulated markets subject to competition. Telenor also believes that the requirements can give access buyers a clear competitive advantage over Telenor.

Nkom's assessment

In the decision, Nkom has set requirements for the any limitations Telenor may put on the access buyer's right to migrate to another host operator. The purpose is to prevent Telenor from imposing unwarranted restrictions on the access buyers's right to migrate the customer base to other networks, at the same time providing that Telenor should have a level of predictability for the sale of access. In the decision, Nkom has kept the requirement that access buyers should be able to migrate at any time. However, Telenor may require that the access buyer must notify about migration with a reasonable notice period. A requirement from Telenor that notice shall be given up to 9 months before the migration starts will in the view of Nkom normally be reasonable. This approach makes the exception for first time buyers that followed from the advance notification, virtually redundant. Nkom finds that even first time buyers should be able to migrate its customers at any time, as long as the access buyer fulfils a possible requirement form Telenor that Telenor must be notified up to nine months ahead.

The right to migrate end-customers at any time is not intended to interfere with other obligations which the access buyer has assumed in relation to Telenor, for example the purchase of a certain amount of traffic.

During the current regulation period, there have been at least two cases where a business market provider with an access agreement with Telenor has requested more time to be able to migrate. In the decision, Nkom has specified that in the residential market, a reasonable migration period will be up to twelve months. In the business market, Nkom has listed conditions that call for a longer migration period. Up to 24 months may be reasonable.

The comments show that Telenor is of the view that there will be a great risk of misuse by the access buyers in connection with migration. Nkom cannot see that there is a greater risk of misuse in the migration process that was notified and is now being continued, compared to how Telenor has practised migration up to now. In Nkom's assessment, as a large and professional operator Telenor has relatively good opportunities to capture possible misuse or breach of agreement.

With regard to Telenor's need for predictability, this must be weighed against the access buyer's opportunity to change provider relatively easily. The access buyer must be able to obtain the access agreements necessary to have the opportunity to offer competitive services in the retail market. In the decision, Nkom has sought to address Telenor's need for predictability to a greater extent by requiring access buyers to notify the use of the right to migration at least six months in advance.

Nkom thus maintains the requirements related to migration, with certain clarifications.

7.3 Non-discrimination

Assessment and conclusion in the notification of a decision

In the notification, Nkom concluded that a requirement must be imposed on Telenor not to discriminate with regard to prices and other terms of access to national roaming, MVNO access, service provider access and co-location. Nkom furthermore notified that the requirement of non-discriminatory prices must apply between Telenor ASA's own retail operations and external operations, and between external buyers of the same type of access.

Nkom has received extensive comments concerning the non-discrimination obligation. In addition, the operators have commented on each other's input. Nkom summarises the input thematically below.

7.3.1 Requirement of non-discrimination between external operations

Consultation comments

Telenor believes that the requirement of non-discrimination between external operations, as Nkom applies an understanding of this type of discrimination and as Nkom enforces it, impedes commercial negotiations and individually adapted agreements. In this respect, Telenor refers to the requirement that if a competing provider achieves better terms, equivalent terms must be offered to other competing providers. Telenor is furthermore of the view that any such requirement can lead to higher prices at both the wholesale and retail levels. Telenor has attached an opinion article by director Lars Sørgaard of the Norwegian Competition Authority, published in *Dagens Næringsliv* on 5 April 2018 (Telenor's Appendix 2), which concerns price regulation in the everyday commodities market. In the article, Sørgaard writes that price regulation in terms of imposing a requirement for dominant suppliers to charge equal prices to all their customers (in the wholesale link) can lead to higher prices for end-customers, as this may undermine the buyers' purchasing power. The question is asked why Norgesgruppen, Rema and Coop should negotiate as intensely as today when they know that any discount they may achieve will also be given to their competitors. The suppliers, for their part, may reject the requirement to give a special discount to a buyer, referring to how they must then give the same discount to all buyers. The danger is that this situation will lead to high purchase prices for the operators in the everyday commodities sector which in turn will lead to high prices for the end users.

Oslo Economics also argues that the non-discrimination obligation for MVNO and service provider access reduces Telenor's incentives and opportunities to enter into more favourable conditions for particularly effective or innovative wholesale customers. The consequence is that such customers may have poorer terms than in a situation without regulation – so that their positive influence on the market is less than it might have been.

Nkom's assessment

Nkom does not agree with the argument from Telenor and Oslo Economics regarding the consequences of a non-discrimination requirement between external parties in the relevant market. In Nkom's view, the assessments from the everyday commodities market, which are attached to Telenor's comments, are not directly transferable to the electronic communications market, as Telenor appears to believe. As the market appears today, it can be assumed that access buyers, including MVNOs and service providers, have very little buying power, ref. Chapter 5.10 of the market analysis. Their volume is limited to 4 per cent of the number of subscriptions. It is unlikely that Telenor, as an undertaking with significant market power, will offer particularly favourable conditions to some of these buyers.

In Nkom's view, the fact that Telenor and Telia are vertically integrated providers with their own retail operations that account for over 90 per cent of the retail market weakens the arguments that a requirement of non-discrimination between external operators will lead to higher prices. For the access buyers, it is definitely worth fighting hard to achieve lower access prices, even if this entails that these prices will also be offered to other competing access buyers. This is because Telenor and Telia have the largest customer base, so that fighting to be able compete with them is not wasted, as Sørgaard indicates to be the case for the everyday commodities market.

In Nkom's view, it is a vicarious argument for not negotiating with access buyers that Telenor may reject the requirement to make a good offer to an operator on the grounds that they must make the same offer to other operators for the same type of access. Telenor has few access buyers for each type of access, and each of them has very little volume. As of today, only eRate has entered into an MVNO agreement with Telenor. eRate also has a service provider agreement with Telenor. If Telenor wishes to give eRate good service provider terms, the disadvantage of having to make equivalent offers to a small number of other service providers, which together account for less than 1 per cent of the market, could be said to be very limited. Nkom is thus of the view that there is no basis to claim that the requirement of non-discrimination between external operators leads to higher prices.

On the basis of Telenor's comments, Nkom has not found any reason to change the requirement of non-discrimination between external operators.

7.3.2 The requirement of non-discrimination between own operations and external operations

Consultation comments

Telenor is of the view that the access buyer itself must be required to take responsibility for obtaining the competences and knowledge necessary to develop and offer new products. Telenor also refers to how the international standards, or the suppliers' solutions for how a new technology or service is to be made available to a national or international access buyer, are normally clarified after the standards and solutions have been clarified for the network operators. If Telenor is to be able to develop future-proof services, it is vital that this development is not impeded by the obligation to grant access to the network.

It is unclear to Telenor what Nkom means in item 264 of the notification when it states that Nkom does not exclude that there might be a need to assess the requirement for non-discriminatory prices between own and external retail operations at a less aggregated level than for accounting separation. In Telenor's view, no need for further tests beyond accounting separation has been documented. There is thereby no basis either under the non-discrimination obligation for further tests in addition to accounting separation. In any circumstances, the method for any such additional tests must be clearly defined in advance, so that there is predictability concerning which requirements are made of Telenor, and so that Telenor has an opportunity to fulfil the requirement. Telenor cannot see any need for or the necessity of such tests in addition to the notified price regulation.

eRate and **Happybytes** emphasise that when network operators launch new services for their end users, the access buyer must have the same opportunity to launch the product at the same time. This means that the access buyer must get technical documentation at the same time as the operator itself has access to work with it. Tests must be performed at the same time, also with pilot customers.

Phonect and **Saga Mobil** also emphasise that the notified requirement concerning access to new services and technology at the same time and on the same terms as Telenor's own retail operations is important and positive for innovation and product development. With regard to access to new services, Phonect points out that Nkom must have sufficient remedies to control the requirement and sanction deviations. Furthermore, close dialogue is required between access buyer and regulator, so that the access buyer can use new technology in its service development and innovation going forward.

Ice points out that Nkom's notification barely considers how the non-discrimination requirement is applied to co-location requests. This is a deficiency that must be rectified in a final decision. It must be emphasised that the obligation of non-discriminatory access to co-location applies to all aspects of the process, i.e. processing of applications, capacity expansions and initiation of location. Ice has learned, for example, that initiation of requests is less prioritised by Telenor, since Telenor prioritises work for its own, competing business operations. External co-location applications must be processed at least as effectively as Telenor's internal processing of the location of equipment. It is also important that Nkom inspects that Telenor does not discriminate in favour of its own operations. This can, for example, take place by Nkom requesting periodic reports from Telenor on the processing of co-location requests compared to the internal processing of the location of equipment.

Telenor is of the view that the claims that the company prioritises its own requests are unfounded and undocumented.

Nkom's assessment

The intention behind the requirement of non-discrimination between internal and external operations is to facilitate that access buyers have the same opportunities as Telenor's own operations to compete in the retail market. In the decision, Nkom has maintained the distinction that was described in the notification related to what the service provider agreement is to compensate for and what access buyers themselves must take responsibility for; see Chapter 7.2.4 of the decision. Pursuant to this, Nkom is in agreement with Telenor's input that the access buyer must take responsibility for obtaining the competences and knowledge necessary to develop and offer new products within the scope of opportunities given by the service provider access. However, Nkom does not see any reason to specify this in the decision. At the same time, the access buyer must receive the necessary technical documentation at a time that gives equal opportunities to work on the development and provision of new services.

With regard to potential time slots between the time when new services are available to network operators and when international standards or resale solutions are available, Nkom is of the view that these are conditions that might fall under the special cases mentioned in Chapter 7.2.4. Nkom upholds that in special cases there may be technical limitations in order to comply with elements of the requirement of non-discrimination between internal and external operations, and that in such cases Telenor must inform Nkom about this in writing without undue delay and before the services are taken into use by Telenor's own retail operations.

Telenor argues that the obligation concerning non-discriminatory prices cannot be tested by Nkom by other means than accounting separation. Nkom in principle upholds that the price regulation in the decision and the requirement of accounting separation will be sufficient to facilitate that access buyers have equal opportunities to compete in the retail market. As stated in the assessment of competition problems, Nkom cannot, however, predict any potential competition problem that might prevent access buyers from competing on equal terms. The requirement of accounting separation does not prevent Nkom from following up a non-discrimination requirement in other ways. Section 10-1 of the Electronic Communications Act states that Nkom must inspect the requirements stipulated pursuant to the Act, while Section 10-3 states that the authorities may require the information necessary to implement decisions laid down pursuant to the Act. This entails that, as required, Nkom must be able to follow up on the non-discrimination requirement without this being limited to accounting separation. Nkom thereby does not accept Telenor's input.

With regard to Ice's claim that Nkom does not consider how the non-discrimination requirement is applied to requests for co-location, Nkom first and foremost refers to how this requirement applies to all access types. The decision does not consider the various access types separately with regard to the non-discrimination obligation. At the same time, the access obligation for co-location is designed in order to operationalise and and safeguard the principles of non-discrimination. Reference is made, for example, to information disclosure requirements, requirements concerning request processing time, requirements for the initiation and execution of placements, restriction of reservation rights and documentation requirements, all of which are intended to facilitate that access buyers to the greatest possible extent have the same opportunity for placement as Telenor's own oeprataions. It is Telenor's responsibility to be able to document that the requirements are complied with if a requester claims that they have been breached. Nkom is of the view, however, that periodic reporting from Telenor on the processing of co-location requests is a good starting point for following up the co-location obligation. Nkom refers to how information about the number of requests, the average time spent on their processing, the number of applications granted, including the number with construction contributions, and the number of placements ordered, was obtained from Telenor and Ice for 2018 prior to the notification decision. Nkom therefore imposes an equivalent reporting obligation on Telenor, on a semi-annual basis.

On the basis of the consultation comments, Nkom has clarified certain points in the decision.

7.3.3 Non-discriminatory price structure

Consultation comments

Telenor is of the view that Nkom does not describe why the fixed price is contrary to the non-discrimination requirement. Telenor is of the view that the price structure with the combination of fixed price per subscription/SIM and traffic-dependent prices will obviously be better adapted to access buyers that wish to compete in the high-volume segment. In Telenor’s view, a fixed-price element per customer or for a specific bulk purchase will contribute to covering the high fixed costs that a network owner incurs on investing in the network.

Telenor is furthermore of the view that the content of the obligation to offer alternative price structures on request, including a bulk price, is unclear. It is also unclear to Telenor how Telenor should ensure non-discrimination between buyers in the same access type that choose different price structures.

Telenor is furthermore of the view that it is not very balanced that access buyers alone will determine the price structure in the access agreement, and that this is not in harmony with Nkom’s claimed intention that the terms should be in accordance with what would have been offered if the market was subject to competition. Telenor also points to how new price structures, such as bulk price, will probably require development of Telenor’s systems. Access buyers that are to enter into access agreements with other price structures than those arising from the reference offer must thus be prepared to cover the costs of such development and be prepared that such development takes some time.

Atea names the opportunity for buying in bulk as a positive change in the notification, to facilitate sustainable competition. Atea writes that this must be an option (where you can choose to buy a certain proportion of data in bulk for many users), while also being able to buy according to the current model for individual users. This will promote innovation and provide new opportunities for good solutions to the market.

Happybytes also supports Nkom’s assessment that it is necessary to impose the requirement on Telenor to offer regulated access without fixed-price components at subscription level, and to offer traffic-dependent (variable) prices. The company also supports Nkom’s assessment that a price model whereby the access buyer can buy a defined volume of traffic in bulk will reduce the price discrimination in the market.

Fjordkraft, Phonect and **Saga Mobil** are also positive about the introduction of buying in bulk and take the view that this will lead to external access buyers facing a price structure that is closer to what Telenor's own retail operations are facing. The opportunity for buying in bulk will give a greater degree of freedom in product development, which in turn will bring more innovation and better products to customers. A transition to a buying in bulk will, however, be associated with uncertainty, especially for smaller operators, and it will also be demanding to follow up margin squeeze testing per product solely for buying in bulk. It is therefore these operators' view that buying in bulk must be a supplement to the current price model, and not a substitute. Phonect specifies that it must be possible for an access buyer to combine both price models.

Atea, Fjordkraft and **Phonect** reject Telenor's statement that, on the introduction of bulk pricing, development costs will accrue that the access buyer will have to cover on using buying in bulk. If this is allowed, it could exclude this price model since it is not possible for the access buyers to assess the reasonableness of such costs.

Fjordkraft also comments on the requirement for traffic-dependent prices and [redacted]

Saga Mobil also comments in the consultation on margin squeeze tests that [redacted]

Ice believes the price model for national roaming has a significant influence on the incentives to develop the third network. This is substantiated by the Norwegian Competition Authority's infringement fee of NOK 788 million to Telenor, which e.g. concerned changing to a price model for national roaming that led to a weakening of the incentives to develop the third network. Ice points out that the text of the notification concerning the less favourable aspects of SIM fees for a provider building the network must be clarified and strengthened, so that it is clearly stated that the price structure must allow for the savings on moving traffic over to their own network to be achieved during the expansion to the greatest possible extent.

Ice is of the view that price models that particularly weaken incentives to expand the network are the use of SIM fees or non-linear prices at subscription level, whereby low traffic consumption (voice or data) is priced significantly higher per unit than higher consumption. Such price models will have the same effect as the SIM fee, as the national roaming buyer gradually gains a high share of traffic in their own network, since the cost of national roaming remains high, even if the subscriber only briefly and occasionally “drops” into the foreign network.

Nkom’s assessment

Requirements on price structure may in some cases be necessary to make price controls effective. Nkom has elaborated on this in the decision chapter 7.2.5 Non- discrimination and chapter 7.5 Price controls and cost accounting requirements. With regard to the specific ban on fixed price per subscription/SIM, Nkom imposes this in the decision pursuant to section 4-9 of the Electronic Communications Act. This entails a change from the draft decision where the obligation was imposed pursuant to § 4-7. The need for such a specific requirement is justified in Chapter 7.5.9.2. Telenor writes that a fixed-price element per customer, or for specific bulk buying, will contribute to covering the high fixed costs incurred by a network owner on investing in the network. Nkom believes there is a significant difference between a fixed price per SIM (as this price element was practised before 1 July 2016) and a fixed price for specific bulk buying. In the case of bulk buying, the payment obligation is linked to the access buyer’s total expected use of the network and grants the access buyer the right to use a certain traffic volume, which Nkom argues is reasonable, in the decision. This is in contrast to the fixed price per SIM, which entails a payment obligation that cannot be justified by use, nor does it give exclusive access to use of the network.

Price models with a degressive price structure, where the access price decreases with increasing volume per subscription/ SIM, is in Nkom's view, particularly disadvantageous for buyers of access who build their own network (national roaming). In order to facilitate the realization of network development gains, Nkom has in the decision, chapter 7.5.9.3 concluded that there is a need to require Telenor to offer a linear pricing structure for national roaming. Some service providers also expressed in the hearing that degressive pricing models are problematic. However, after careful consideration, Nkom has concluded that it is not appropriate to impose similar requirements for other types of access than national roaming. Reference is made to Chapter 8 for the summary of the supplementary consultation on price structure and price regulation for further assessment.

Telenor is of the view that the obligation to offer alternative price structures on request is unclear. Nkom refers to how any such obligation also follows from the Ministry of Transport and Communications' decision of 9 March 2018, which states that in a concrete case of a request for access Telenor could also be obliged under the non-discrimination provision to offer a different price structure, as an alternative to a traffic-dependent variable price structure. According to the Ministry, this will depend on a concrete assessment. Nkom thus believes that the obligation to offer different price structures is a continuation of the current regulation. In addition, a bulk price (a volume of traffic for all or parts of the customer base) is emphasised as a particularly relevant price structure, since this is in demand from access buyers. Nkom does not agree that this is an unclear obligation. In the notification, Nkom had drawn up some guidelines for the design of such an agreement and has further clarified these guidelines in the decision. As with other requirements for price structure, the specific obligation to offer bulk prices on request is laid down in Chapter 7.5.13 of the decision pursuant to section 4-9 of the Electronic Communications Act.

To prevent discrimination between external providers, Telenor must ensure that all providers within the same access type have the opportunity to enter into agreements with the price structures offered to other providers of this access type. Any differences in what is offered must be justified by objective conditions, as described in Chapter 7.2.3 of the decision.

The decision does not entail that the access buyer can determine the price structure in the access agreement alone, as Telenor claims. In the decision, Nkom has expressed how the design of a price model based on bulk price must in principle take place by negotiation between the parties and that Telenor's offer must entail the reasonable balancing of the parties' interests. This also applies to other alternative price structures. Nkom upholds that it is reasonable to expect that in a market with competition, operators on the supply side would have had an interest in negotiating with potential buyers, in order to accommodate their wishes.

Several access buyers emphasise that bulk buying must be a supplement to variable prices and could be combined for an access buyer, so that an access buyer can buy traffic in bulk for some of its customers, while retaining the reference offer for some other customers. Nkom understands that there is considerable uncertainty related to the transition to alternative price models, and considers it important to reduce this uncertainty in order to facilitate bulk buying as a real alternative for access buyers. To ensure efficiency, it is also important to provide incentives to buy the greatest possible bulk. To address these considerations, Nkom makes the requirement in the decision that the average price per unit (minute, text message or data traffic) should decline in line with the bulk volume. Nkom has also made it clear that access buyers must be able to buy bulk traffic for parts of the customer base.

Nkom upholds that the need for system development at Telenor related to new price structures will be limited and that the equivalent thereby also applies to the time spent. Nkom imposes a requirement on Telenor to make offers with alternative price structures without undue delay when a request for a given price structure has been received. Furthermore, the necessary development and arrangement must take play without undue delay once an access agreement with an alternative price structure has been entered into. On request, Telenor must be able to document the time spent. Nkom believes that Telenor must defray any costs of system development for alternative price structures such as bulk price. It must be expected that more access buyers will request such an agreement over time, so that it is not reasonable to charge one or a few access buyers for system development.

On the basis of the comments, Nkom has made a number of changes and clarifications to the decision. Specific requirements for price structure are imposed in accordance with section 4-9 of the Electronic Communications Act and are thus explained in Chapter 7.5 Price and accounting regulation.

7.4 Publication and reference offer

Assessment and conclusion in the notification of a decision

In the notification, Nkom concluded that Telenor would be directed to prepare and publish reference offers for national roaming, MVNO access, service provider access and co-location. The obligation to publish reference offers does not include information about prices related to national roaming, MVNO access and service provider access. However, the information must be made available to operators requesting access. It was furthermore notified that a requirement would be imposed on Telenor to send copies of established agreements to Nkom (not for co-location), and to notify other providers and Nkom of changes to the agreements.

Consultation comments

Telenor does not have comments that relate specifically to reference offer requirements, but in their comments refer to the reference offer requirement in relation to other obligations, including in connection with accounting separation and requirements for a non-discriminatory price structure.

Nkom's assessment

Nkom has not received any consultation input that provides a basis for changing the notified obligations concerning publication and reference offers. The comments from Telenor that are related to these conditions are considered under the comments on accounting separation and requirements for a non-discriminatory price structure.

7.5 Accounting separation

Assessment and conclusion in the notification of a decision

In the notification, Nkom concluded that there was a need to impose a requirement on Telenor to prepare accounting separation for its mobile operations in Norway, between the network operation and the retail operation. The reporting will provide a basis for verifying compliance with the prohibition of price discrimination against MVNO providers and providers that buy national roaming.

Consultation comments

Telenor refers to how Nkom notifies that revenue and costs related to M2M and IoT must be included in the accounting statement. In Telenor's view, it will not be correct to include these products in accounting separation. M2M and IoT are not subject to the regulation, nor are they assessed to be a relevant market, and they are not covered by either the three-criteria test or the assessment of significant market power. Telenor therefore believes that Nkom has no reason to include these products in the regulation.

Phonect agrees that accounting separation is a complementary measure, in addition to margin squeeze tests to prevent margin squeeze, but disagrees that the accounting reporting should not include service provider access. Phonect agrees that service providers are considerably smaller than Telenor, and often have a narrower product range, but is of the opinion that this would have given Nkom insight into and understanding of conditions that are difficult to illustrate in a one-sided margin squeeze model. Phonect asks Nkom to ressess this.

Nkom's assessment

In Nkom's decision in Market 15 of 1 July 2016, traditional M2M services in mobile networks were defined as a related retail market, and data traffic to provide M2M services was also included in the relevant wholesale market. M2M services were thereby covered by the reporting of the accounting separation imposed in the decision of 1 July 2016. Nkom agrees with Telenor that the changes in market definition must also be reflected in the reporting of the accounting separation. As stated in the notification, Nkom still has a need to monitor the development in this market, as it might later be relevant to assess this as a separate market. The consultation comments from access buyers concerning the market definition also support the need to monitor the price development. Nkom has therefore changed the decision so that revenue and costs for M2M and IoT are not to be included in the accounting separation. Instead, a supplementary reporting requirement is imposed on Telenor, with isolation of revenue and costs associated with M2M and NB-IoT. This reporting must otherwise adhere to the same principles as for accounting separation, but will not include requirements concerning results, since the services are not regulated.

Nkom has assessed whether accounting separation requirements must also include service provider access, as requested by Phonect in their consultation response. The basis for accounting separation is Telenor's volume and product composition. Since this is far more extensive and broader at Telenor than a service provider, accounting separation is not an appropriate instrument to follow up the non-discrimination requirement. Nkom furthermore indicates that the main principle for the choice of remedies should still be Principle 3, which means facilitating the establishment of infrastructure. As a consequence, the regulation of service provider access must not be just as extensive as for other access types. Nkom has therefore not found any basis to change the regulation as a consequence of Phonect's comment.

7.6 Price controls and cost accounting requirement

Assessment and conclusion in the decision notification

Nkom has notified that a price control requirement will be imposed on Telenor for the following forms of access: national roaming, MVNO access and service provider access, in the form of a ban on subjecting access buyers to margin squeeze. Nkom notified that national roaming and MVNO access agreements must pass full margin squeeze tests, while service provider access agreements must pass gross margin tests. Regarding co-location, Nkom notified that a price control requirement would be imposed on Telenor as a requirement for cost-oriented prices, as well as a requirement for annual reporting of cost accounts.

7.6.1 Prohibition of margin squeeze for access to national roaming, MVNO access and service provider access

Telenor and access buyers have submitted extensive comments concerning price regulation for the access forms of national roaming, MVNO access and service provider access. Comments have been submitted concerning the Market 15 notification[17], as well as the national consultation regarding the margin squeeze model[18].

Nkom summarises the comments thematically below.

After the expiry of the consultation deadline, Telenor submitted a report from Oslo Economics entitled "Quantifying uncertainty in the Nkom margin squeeze model", and Ice has submitted

[17] National consultation commenced on 31 May 2019.

[18] National consultation commenced on 13 August 2019.

additional comments to the price regulation. These comments are summarised and commented on in Chapter 7.6.1.7 and 7.6.1.8.

7.6.1.1 Overall comments

Consultation comments

Telenor's view is that there is no basis for price regulation in the markets. Price regulation is claimed to lead to artificially low prices in the wholesale market, reduce the network owners' investment incentives, weaken competition in the retail market and lead to the establishment of ineffective operators in the service link. According to Telenor, this will weaken development incentives for Ice. Telenor believes that the regulation should support the goal of infrastructure competition and argues that there should not be any margin squeeze regulation for service provider and MVNO contracts.

Telenor elaborates on its submission that price regulation leads to artificially low access prices by claiming that since the margin squeeze tests assume that the entire volume is purchased by Telenor, without considering that Ice's own coverage increases, the calculations will show a margin squeeze at far lower roaming prices than actually lead to a margin squeeze for Ice.

Telenor claims that no competition problems have been identified that necessitate the regulation of Telenor's access prices, and that the notified price regulation is disproportionate. Telenor believes that the price regulation work entails high costs and extensive work for the company, and that so many resources have never been used as in the sixth round with margin squeeze tests.

Telenor has engaged Oslo Economics to assess the notification of a decision in Market 15, in addition to perform a competitive economic assessment of the margin squeeze model. Overall, Oslo Economics believes that the market development does not indicate that price regulation should be tightened. The company claims that regulation will lead to less innovation, due to the combined effect of the required positive gross margin for all tested products and the right to rectification of the wholesale price on any breach. Oslo Economics furthermore believes that the combination of principles and model makes the regulation less predictable for Telenor.

Oslo Economics believes that regulation in the business segment is problematic, in terms of both scale and transparency. Specifically, Oslo Economics argues that Telenor's competitors can derive the price level that Telenor can offer business customers without the risk of subjecting the reference operator to margin squeeze, and that this leads to less competition for business customers. Oslo Economics furthermore believes that mobile broadband should not be included in margin squeeze tests, since there is little reason to conclude that there are significant competition problems in the segment.

The Norwegian Competition Authority supports the use of instruments that facilitate long-term, infrastructure-based competition. The Norwegian Competition Authority refers to how the operator profile in today's mobile market makes it appropriate to maintain the requirement of a positive gross margin for service provider terms, as well as the prohibition of margin squeeze for MVNO access and access to national roaming, with the notified reduced efficiency requirement for MVNO and service provider.

eRate is of the view that the notified price regulation is not adapted to the conclusion that there is no sustainable competition in the market and that there should be further tightening. This is substantiated by submissions that Telenor and Telia overinvest in mobile networks and that it will take many years for Ice's infrastructure to contribute to the development of sustainable competition. eRate believes that under the current regulation Telenor can hold the access buyers in a continuous margin squeeze. The company takes the view that this can be resolved by any infringements having retroactive effect, whereby wholesale prices, consumption patterns and revenue included in the margin squeeze tests must be from the same period, or whereby the margin squeeze tests are performed far more frequently. eRate considers it vital to have margin squeeze tests that work, and that take account of future testing in order to capture rapid changes in the competition arena.

Fjordkraft, Phonect and **Saga Mobil** take the view that there is a need for price regulation, but propose further tightening. The companies believe that service providers have a very important role in the market in terms of increasing competition, and that a well-designed margin squeeze test can give service providers the opportunity to contribute innovation, product development, better services and lower prices for customers. **Saga Mobil** takes the view, however, that the margin squeeze test is not the optimum way of monitoring and revealing distortions in the market, and that focus should rather be on ensuring reasonable pricing from network owners based on production costs and a reasonable mark-up.

Happybytes argues for tighter price regulation to close the “gaps” in the current regulation that allows for continuous margin squeeze, and refers to how sanctions with retroactive effect or decisions that take “accrual” into account might be a solution.

Atea, eRate, Fjordkraft and **Phonect** take a critical view of several of Telenor's submissions. **Atea, Fjordkraft** and **Phonect** explicitly reject that price regulation of Telenor will lead to the establishment of ineffective operators and reduced network investments. Reference is made to how a gross margin test entails that the wholesale price is marginally lower than the price for the customer and that this puts efficiency under tremendous pressure. **eRate** takes the view that the lack of regulation will lead to higher prices for consumer, less innovation and a narrower product range, referring to how offers promoted by eRate contribute positively to market and competition development. **Atea, Fjordkraft** and **Phonect** also reject Telenor's submission that the prices in the wholesale market are artificially low and believe that the claim is refuted by how Telenor regularly fails to pass the margin squeeze tests and that the price for the end-user is at around the same level as the wholesale price.

Nkom's assessment

Nkom maintains that there are still competition problems justifying the need for a price regulation that can support the objective of infrastructure competition. There are no indications that the design of the price regulation leads to artificially low access prices that might have a dampening effect on investments or innovation. Among other things, there are ongoing 5G initiatives, and the interest in the spectrum is increasing.

Nkom also remarks that Telenor's concern that the price regulation reduces Ice's competitiveness does not appear to be shared by Ice. With regard to the price model for national roaming, Ice is concerned that a SIM fee, or non-linear prices at subscription level, entails a high cost of national roaming. In the same way, the comments from other access buyers express how improved competition in the market depends on tighter price regulation. Concerning Telenor's claim that the margin squeeze tests show margin squeeze at a lower level than what applies to Ice, Nkom refers to how the margin squeeze tests require a reference operator with established efficiency requirements. The price regulation will thereby not depend on the exact relation between own cover and access purchase applying to Ice. In this regard, reference is made to the discussions under Principle 2. The margin squeeze test assumes 100 per cent purchase from Telenor. In Nkom's view, this is an appropriate approach since it is the costs of volume purchased under national roaming conditions that is the relevant level. The access buyer's own network costs are not included in the margin squeeze model.

To Telenor's claim that the margin squeeze tests show margin squeeze at a lower level than that applicable to Ice, Nkom points out that costs for purchasing access are calculated based on the volume that the test assumes. Nkom acknowledges that such calculated volume will not necessarily be representative for Ice. While the margin squeeze test is well suited to test the price terms for MVNO access, since this is offered to an operator who buys all its volume from Telenor, Nkom has, after a reassessment, concluded that conducting a parallel test of price terms for national roaming is not as relevant. In the assessment of the price regulation for national roaming, Nkom has emphasized that the regulation should provide real incentives for further roll out of the third mobile network.

For MVNO access, Nkom notified requirements that access prices for such an agreement should be more attractive than for service provider access. The purpose was to provide incentives for investment and to counteract Telenor's incentive and opportunity to keep access buyers at a lower stage on the ladder of investment. Nkom therefore set requirements to the relative relationship between access prices for service provider access and MVNO access. The notification did not contain a similar requirement for national roaming. Nkom recognizes that it is appropriate to require a similar, relative relationship between access prices for MVNO and national roaming. Such a requirement provides a consistent approach for all forms of access, and remedies potential competition problems that may arise, including obstacles to the roll out of the third mobile network.

Concerning Telenor's submission that the price regulation entails high costs and extensive work for the company, Nkom refers to how it must be expected that Telenor's experience from six rounds of margin squeeze tests has contributed to a gradual reduction of the administrative burden. Nkom believes that the fact that Telenor devoted a lot of resources to the sixth round may be a result of Nkom's decision of 15 January 2019 concerning an infringement fee, related to how Telenor provided incorrect, incomplete and non-timely information in connection with the fifth round of margin squeeze tests. Nkom furthermore refers to how the notified margin squeeze model is better adapted to what Telenor is able to report, which is also expected to reduce the administrative burden. Nkom maintains that the disadvantages for Telenor of a margin squeeze prohibition are not considered to exceed the benefits that are sought to be achieved, and that the obligation is proportional.

Nkom also does not endorse Oslo Economics' submissions that the notified price regulation is not necessary and that it leads to less innovation. Nkom refers to Chapter 7.5 of the decision, in which the need for price regulation is stated and where various forms of price regulation are discussed. The claim of unpredictable regulation is assessed from different perspectives, and Nkom rejects that the claimed lack of predictability is a basis for changing the margin squeeze model. In this respect we refer to Nkom's assessments below regarding Principle 6 and the report entitled "Quantifying uncertainty in the Nkom margin-squeeze model".

With regard to Oslo Economics' submissions concerning transparency and competition intensity, Nkom doubts that "*(...) Telenor's public standard terms, the way the tests are performed, and knowledge of costs in the industry (...)"* enable competitors to predict Telenor's price offer prior to a competitive tender in the business market. The development in market shares in the business markets clearly demonstrates that Telenor has a strong position.

Oslo Economics claims that mobile broadband should not be included in the margin squeeze tests. In this respect, Nkom refers to how the inclusion of mobile broadband in the regulation is assessed under Chapter 3.2 above. Nkom maintains that mobile broadband must be included in the tests.

With regard to Saga Mobil's input concerning cost-oriented prices, Nkom refers to how this is assessed in Chapter 7.5.2 in the decision. Nkom believes that the input from Saga Mobil does not include any significant new elements and maintains the conclusion that price regulation should be imposed in the form of a prohibition on subjecting the access buyer to margin squeeze.

All of the service providers submit that price adjustment should be tightened. Nkom refers to how the notified price regulation already includes the tightening of several elements compared to the current regulation. Nkom takes the view that the design of the margin squeeze tests sufficiently models the current competition profile in a robust way for MVNO access and service provider access. However, Nkom has changed the arrangement for access to national roaming so that prices for national roaming as a starting point should not exceed the standard price terms for MVNO. The specific design is set out in Chapter 7.5 in the decision. Below, Nkom has assessed the specific input concerning the tightening in conjunction with the various principles for margin squeeze tests.

7.6.1.2 Gross margin tests for service providers

Consultation comments

Telenor takes the view that gross margin tests for each of the representative products do not resolve a documented competition problem. The company claims that it is incorrect to measure the margin for each product included in the market, since the competition takes place within the entire relevant market. Telenor is of the view that service providers should be ensured a margin at an aggregated level, and in view of the conditions that the price terms for the service provider should not be more favourable than for MVNO, any such arrangement will discipline the access prices for MVNO. In addition, gross margin tests will reduce Telenor’s pricing flexibility. Telenor prices individual products so that no full cost cover is achieved, since there are long-term gains associated with winning customers. Gross margin tests for individual products reduce the flexibility of campaigns with increased data volumes and welcome offers.

Atea takes the view that the gross margin should be set at 15 per cent so as not to motivate the start-up of new operators that will sell themselves out when they achieve a certain size.

eRate is of the view that the form of price regulation should be tightened, since prices are never lower than the regulated price. eRate points out that it is very important that Nkom maintains the requirement that each of the products included in the gross margin tests shows a positive margin, so that the value added by refining and creating innovative products or services is not offset by wholesale prices without margin.

Fjordkraft, Phonect and **Saga Mobil** cannot see that it is appropriate to require the gross margin to be only marginally positive, and believe that a full margin squeeze test should be performed for service providers. They believe that this is necessary in order to achieve the objective of a well-functioning market subject to intense competition, and to gain more access buyers that are not just building up a customer base before being sold to one of the network operators. The companies argue that significant sales and marketing resources are required to achieve a 3-per-cent market share, and that the service providers also have costs associated with operating the customers, such as system maintenance, invoicing and customer service. **Phonect** and **Saga Mobil** consider it very difficult to justify normal business operation with less than 15-20 per cent gross margin. **Fjordkraft, Phonect** and **Saga Mobil** also find that full margin squeeze tests of the service provider terms should be performed, because the differences between the MVNO and service provider access forms are smaller than before. **Fjordkraft** believes that an alternative to a full margin squeeze test might be to set a requirement concerning the size of the gross margin, as an estimated 20 per cent.

Nkom's assessment

Nkom notes that Telenor argues that the testing of individual products with a positive gross margin requirement is not appropriate and does not ensure sufficient flexibility, while access buyers argue for a tightening whereby the gross margin requirement should be higher than zero, and the testing of service provider terms should take place as full margin squeeze tests. Concerning assumptions regarding efficiency requirements, this is considered below under the submissions related to margin squeeze principle 2.

Nkom maintains that gross margin tests resolve a documented competition problem, cf. Chapters 7.5.1 and 7.5.2 of the decision in which Nkom argues for the competition issues of price discrimination, excessive prices and price squeezes, and that prohibiting margin squeeze will be the most appropriate form of price regulation that can help to remedy the competition problems identified. Chapter 7.5.3 assesses the need for differentiated tests for various access forms and concludes that service provider access agreements must fulfil the requirement of a positive gross margin for each individual product included in the test. The price regulation hereby seeks to achieve that access buyers with an agreement as a service provider are not banned from any market niches. Since service providers may have a rather lower threshold to enter the market since they target a specific part of the residential or business markets, Nkom maintains that it is not proportionate to apply an assumption that access prices must be at a level which entails that a service provider must have retail offers throughout the market. This assessment also responds to the access buyers' proposal to require full margin squeeze tests for service provider terms.

Nkom registers that Telenor believes that there are benefits related to winning customers by offering low retail prices. Any such pricing strategy might resemble predatory pricing, and in such case might have an adverse effect on competition. The price regulation must be relevant for the current competition profile at any time. It is therefore proportionate to require that retail revenue from each of the products tested must cover the access cost that an access buyer is to pay to Telenor in order to offer an equivalent product. This entails that each of the representative products, including products with promotion campaigns concerning e.g. price or data volume, must show a positive gross margin. Nkom points out that the costs of retail activities, including sales, marketing and customer service, are not included in the gross margin tests. The regulation thus does not require full cost cover for individual products. Such costs for retail activities will also be incurred by access buyers.

Nkom agrees with Telenor that, to some extent, the regulation reduces the company's flexibility to run price and data volume campaigns, but not more than necessary to resolve the competition problems.

Several access buyers believe that requirements should be set concerning the size of the gross margin per product, at an estimated 15-20 per cent, mainly due to the need to cover the costs of retail activities. Nkom does not find any basis to set a specific margin size, other than that it must be greater than zero. Nkom is of the view that any such tightening might have a significant impact on Telenor’s pricing flexibility, with effects that are difficult to predict. Nkom has also assessed that so far there is insufficient objective and robust evidence to determine the size of any such effects.

Nkom thereby maintains that gross margin tests for service provider access must be performed, and that these tests must show a positive gross margin for each of the products included in the test. On the basis of the consultation comments, the text of the decision has been expanded somewhat in this respect.

7.6.1.3 Right to rectification

Consultation comments

In **Telenor’s** view, the purpose of the price regulation is to ensure sufficient margin for access buyers. The company therefore believes that the right to rectification of a wholesale price goes beyond what is necessary to rectify any competition problems. Telenor should be free to choose which price elements at the retail and wholesale levels are to be changed. Telenor furthermore believes that there is a need to clarify the right to rectification in terms of which wholesale prices, including voice, text messaging and data, the company will be allowed to include in the rectification.

In particular with regard to changes in the principle that the reference operator must have a 3-per-cent market share, compared to the previous 5 per cent, Oslo Economics has assessed various outcomes of different rectification methods, and the impacts on price and investment levels in the market to which these methods can lead. Oslo Economics is of the view that a requirement of reduced access prices if a margin squeeze is found will lead to lower retail prices and reduced investment incentives among the network owners.

eRate and **Happybytes** specify the importance that any infringement must lead to repayment to operators that have paid an excessive price, and that there should be an automatic mechanism to prevent a protracted and expensive process. eRate claims that as of today it is rational for Telenor to keep wholesale prices high for as long as possible, since the prices just need to be adjusted after a breach of the margin squeeze tests.

Fjord Power and **Phonect** find that the repayment of the excessive price on any actual margin squeeze is a good measure, and will reduce the time difference between action in the market and consequences of the margin squeeze test. **Atea** is also positive concerning the repayment of the excessive price.

Nkom's assessment
With regard to Telenor's claim that a right to rectification of the wholesale price extends beyond what is necessary to rectify any competition problems, as well as Oslo Economics's assessment of the rectification requirement, Nkom refers to the assessments in Chapter 7.5.8.2 of the decision. The price regulation is intended to balance the consideration of facilitating that external operators can compete on established infrastructure with the consideration of safeguarding the network owner's investment incentives. Nkom maintains that the requirement of rectification of the wholesale price if a margin squeeze is found is necessary to ensure that the margin squeeze regulation can promote the purpose of the regulation sufficiently efficiently, and rectify identified competition problems, thereby constituting an appropriate form of price regulation. Nkom cannot see that the purpose of the regulation can be achieved in any less intrusive way.

With regard to submissions related to scale, reference is made to the assessments below under margin squeeze principle 2.

Concerning submissions that any breach should have retroactive effect and that there must be an "automatic" mechanism for repayment, Nkom refers to the discussion in the decision, Chapter 7.5.8.4. The Electronic Communications Act sets out the framework for which legal processes must precede any repayment.

On any breach of the price regulation, Telenor will be ordered to make changes limited to the wholesale price of either voice, text messaging or mobile data, or a combination of these. This means that Telenor can choose to change the price of voice, text messaging or mobile data, or a combination of the prices for these three services. Nkom has specified this in the decision.

7.6.1.4 Relative price level between MVNO and service providers

Consultation comments

Telenor is of the view that the specific content of the requirement that access prices for service providers should not be lower than access prices for MVNO access must be clarified.

eRate takes the view that price regulation of MVNO access should be stricter than of service providers and refers to how MVNOs are often more long-term and industrial, which contributes to competition and innovation over time. Exempt from public disclosure: [redacted]

Nkom's assessment

Nkom will avoid access prices acting in a way that makes it more attractive to remain as a service provider without being motivated to innovate and climb the investment ladder to MVNO.

This entails that prices for mobile data access must not be higher for MVNO-access than for service provider access. Since an MVNO must pay for access to both origination and termination of voice and text messaging, the MVNO prices for these services must not be higher than half of the service provider prices. Nkom has updated the text of the decision in this respect.

Exempt from public disclosure: [redacted]

7.6.1.5 Principles for margin squeeze tests

General

Consultation comments

Oslo Economics (**Telenor**) believes that the operational principles are quite general and that relevant assumptions are not defined in the operational principles. The company claims that the principles refer to what Nkom would normally do, and not what will actually be done, which gives Nkom great room to manometer. The operational principles should be further specified.

Nkom's assessment

On designing principles for margin squeeze tests, Nkom has balanced the consideration of predictability for all parties concerned, as well as the consideration of a certain level of market dynamics, particularly in terms of product development and changes in demand. The regulation must be able to facilitate equal terms of competition. The principles must therefore be designed in a way that takes account of changes in the market. Nkom has therefore made only limited minor additions to the description of individual principles.

Principle 1 – Efficiency standard

Consultation comments

Telenor refers to how an EEO approach is assumed in accordance with Section 11 of the Norwegian Competition Act and believes that there is no basis to deviate from this principle in the model, as Nkom does.

Oslo Economics believes it is reasonable to test an adjusted EEO.

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principle of adjusted EEO.

Nkom's assessment

Market regulation takes place under the authority of the Electronic Communications Regulation and therefore will not be bound solely by the Competition Act. Neither do the Norwegian Competition Authority's consultation statements indicate that Nkom would be bound in any such way as submitted by Telenor. Nkom maintains Principle 1.

Principle 2 – Scale adjustment

Consultation comments

Telenor claims that the assumption of a 3-per-cent market share in the residential markets, or a 3-per-cent market share in the business markets, is undocumented and disproportionate, and that the effects of a reduction from 5 to 3 per cent have not been analysed. According to Telenor, the assumption of a share of the residential and business markets separately is unnecessary, since the input factor from the wholesale market is the same, is produced on the same service platform and shares the same costs, irrespective of what it is to be used for. Alternatively, Telenor takes the view that a wider effective scale in the business segment than in the residential segment must be assumed. Telenor is of the view that the assumption entails testing an operator with 45,000 customers, approximately 7 per thousand of the total market, and that the proposed market share thereby facilitates the establishment of ineffective operators. The company refers to how previous MVNO operations in Norway have been substantially larger and that eRate has significantly more customers. Furthermore, Telenor believes that Nkom incorrectly relies on previous decisions in the termination markets.

On behalf of **Telenor,** Oslo Economics believes that a specific assessment should be made of what constitutes an effective scale for the reference operator in each market. The company believes that the reference operator in the business market has greater relative scale advantages, and that the regulation can lead to inefficient establishment and weaken the access buyers' incentive to grow.

Oslo Economics believes that a reduction of the scale might be detrimental for investment incentives, thereby undermining infrastructure-based competition between three networks with national coverage.[19] Furthermore, the company claims that the assumption of a 3-per-cent market share for an MVNO or service provider is too low, and that the change from 5 per cent to 3 per cent means that estimated average costs of retail activities will increase. Oslo Economics believes that the changes lead to the modelling of increased retail costs without this increasing competition.

Concerning the size of the reference operator for national roaming, Oslo Economics supports a 20-per-cent market share.

eRate takes the view that it is positive that the size of the modelled operator is reduced in the notification, but believes that it should be reduced further to a 1-per-cent market share for both service provider and MVNO access, as well as for national roaming. The reason is that today the largest independent operators are at 1 per cent.

Atea and **Happybytes** take the view that the efficiency requirement must be reduced to a 2-per-cent market share for both service provider and MVNO access, since there is very little probability that any operators will exceed this in the new regulation period.

[19] See also submissions from Oslo Economics concerning the rectification decision.

Based on the experience of how demanding it is to increase the market share, **Fjordkraft** also believes that the size of the modelled operator should be reduced to a 2-per-cent market share. The company believes it will require NOK 170 million to achieve a 3-per-cent market share, and that this is a significant barrier to establishment.

Phonect believes that the size of the modelled operator should be set at a market share of maximum 2.5 per cent, since substantial investment will be required to achieve a 3-per-cent market share.

Saga Mobil does not support the principle that a scale adjustment of access buyers must be made, and does not see the point of making size the decisive factor. The company also argues that the size of the modelled operator should be set even lower than 3 per cent.

The Norwegian Competition Authority believes that the reduced efficiency requirement, stated as the market share of the reference operator, is appropriate, given the operator profile in today's Norwegian mobile market.

Atea, Fjordkraft and **Phonect** disagree with Telenor's submissions that it is disproportionate to assume that an effective operator has a 3-per-cent market share either in the residential markets or in the business markets. The aforementioned access buyers claim that the two segments are very different in terms of requirements of system support, products and services. The access buyers believe that, for as long as the goal is to increase competition, it is important that new operators are not required to be present in both segments from day one.

Nkom's assessment

Nkom has proposed a few measures to tighten the price regulation, and the most concrete tightening is by determining the specific level of efficiency for MVNO and service provider. Experience from the current regulation indicates that the principle of a 5-per-cent market share does not adequately resolve competition problems and does not adequately facilitate new establishment. In the current regulation period, new market operators have not achieved market shares close to 5 per cent.

Nkom acknowledges that assumptions concerning a lower market share allow for access buyers with higher unit costs than Telenor, as a consequence of scale disadvantages. Yet this is a preferable direction, to facilitate equal terms of competition and efficient competition.

Nkom believes that there is no basis to claim that the scale reduction leads to a lower investment level. In the 2016 decision, price regulation of the access to national roaming, MVNO and service provider was introduced for the first time. Also at this time, it was submitted that the result could be reduced investment incentives. Yet the development shows that the total investments in the electronic communications industry are relatively stable[20]. The categorisation between fixed and mobile networks and other investments varies between years, however. In Nkom's view, such changes can be attributed primarily to the phases of the various network technologies, such as that 3G is being phased out, 4G is past its peak, and 5G investments are expected to increase in magnitude in the coming years.

Concerning the submissions that a scale of 3 per cent of the business market might entail testing for an operator with 45,000 customers and lead to inefficient establishment, Nkom refers to how several operators in the business market have a lower customer base. Companies that offer mobile services, such as Phonect, NextGenTel and Atea, have been in the business market as access buyers for several years. According to the electronic communications statistics[21], they have not achieved a customer base of 45,000 customers in the business market. In a historical perspective, it should also be noted that, after a number of years in the market, the customer base of former TDC barely reached the customer size named by Telenor[22].

Nkom cannot find any reason to claim that these providers are inefficient. Business market operators may have a complex product range with deliveries to their customers that include more than mobile telephony. Access regulation is intended to ensure that the element of the operators' activities related to mobile services can be based on prices that, as far as possible, are equivalent to the prices that would arise in a well-functioning market.

With regard to Telenor's submissions concerning historical decisions in termination markets, Nkom refers to how the description of these decisions was made as one of several possible reference points to determine the efficiency scale. However, Nkom has relied on how the current competition conditions in Norway should have the greatest weight in the specific design of the price regulation. This perspective is also supported by the Norwegian Competition Authority.

The access buyers have submitted that the efficiency requirement should be reduced further, and as an estimation down to 1 to 2.5 per cent. Nkom believes that a level that is this low may entail that operators that are not sufficiently cost effective might become established, perhaps with a view to building up a customer base for subsequent resale. At the present time, a level of a 3-per-cent market share adequately balances the considerations of efficiency and competition, respectively.

[20] In the years 2016 to 2018, the total investment level was around NOK 10 billion per year. The source is ekomstatistikken.no.
[21] Ekomstatistikken.no
[22] The company had just over 50,000 customers prior to the merger with Telia in 2018.

On this basis, Nkom maintains that it is proportionate to assume an efficiency scale of a 3-per-cent market share in the residential and business markets, respectively, both for MVNO and service provider access.

Nkom maintains Principle 2, with exception of changes related to the price regulation for national roaming.

Principle 3 – Wholesale products

Consultation comments

On behalf of **Telenor,** Oslo Economics submits that it is reasonable to base the test on Telenor's reference offers.

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principle.

Nkom's assessment

Comments received do not give any reason to change Principle 3.

Principle 4 – Time perspective

Consultation comments

Telenor is of the view that the time perspective of the margin squeeze tests should correspond to the customer's lifetime. The company believes that grounds should be given if Nkom will in future use data for six months. Telenor believes that a test with a six-month perspective is susceptible to seasonal variations and other short-term effects.

On behalf of Telenor, Oslo Economics submits that the expected duration of a customer relationship is significantly longer than 12 months and that margin squeeze tests applying six- or 12-month usage patterns are therefore too short to test whether an access buyer can replicate Telenor's strategy and achieve a positive margin. In Oslo Economics' view, a short time perspective will prevent Telenor from undertaking campaigns with discounted prices and/or increased marketing costs, in order to win customers. Oslo Economics also submits that over time Telenor will seek cover of increased roaming costs during the summer months, and believes that a short time perspective can lead to a weakening of both price competition and the pace of innovation.

Oslo Economics submits that the margin squeeze model only uses data from the last six months (and less for some products) and believes that doing this without justification is a breach of the time perspective principle. Oslo Economics is of the view that data from 12 months is generally preferable to six months, among other things due to seasonal variations such as increased use of data and roaming during the summer months, and that major campaigns in one month, for example, will have a great effect in a six-month perspective.

Concerning the use of parallel tests to assess the margin profile in the coming period, Telenor is of the view that it is unclear how these tests will be designed and what they will test, and also what the tests will capture besides the development in volume. As Telenor understands it, the tests will have to be based on forecasts. In Telenor's view, there is no basis to impose rectification based on any such parallel test.

eRate agrees in principle, but adds that it is important to test with the same time reference, so that access prices, products, consumption patterns and revenue are from the same period. Furthermore, eRate believes that the tests must take account of the explosive development in data consumption, in order to prevent access buyers from being subject to margin squeeze immediately after a test.

Happybytes also takes the view that wholesale prices, consumption patterns and revenue must be from the same period. More frequent tests than the two stated per year are proposed as an alternative. Moreover, the margin squeeze model should take account of the development in data volume and not just historical consumption.

Fjordkraft, Phonect and **Saga Mobil** disagree in principle concerning the use of a static perspective over the preceding twelve months, and believe that Nkom should project the growth in data traffic in the margin squeeze tests. The companies point to ever-increasing data use, and believe the introduction of new technology will amplify this trend. The companies also believe that accrual is very important and point to how the prices used in the margin squeeze test must concern the entire period from which consumption and product distribution are derived, and not be a snapshot view when the tests are performed. Alternatively, consumption and usage patterns must be projected on the basis of the course of the trend.

Nkom's assessment

Nkom believes that the usage pattern that is tested must be representative of the competition profile in the market close to the time that the tests are performed. In Nkom's view, a time perspective of 12 months' usage pattern will not be representative, particularly in view of the increasing use of mobile data. Nkom acknowledges that products with campaign prices or newly released products will typically have a lower margin than other products, but Nkom does not agree that a short time perspective will be an impediment to Telenor's campaigns. Nkom refers to how there is no prohibition of a low margin for individual products or at aggregated level. With regard to increased marketing costs, these are costs that will be included in the costs of the retail activities. These costs are not included in the gross margin tests and are only used in the full margin squeeze tests, in which weighted revenue from all products in the markets being tested is settled against costs. Increased marketing costs will therefore not affect results at product level. Nkom furthermore acknowledges that Telenor has increased roaming costs in the summer and refers to how this also applies to access buyers. Nkom believes that six months is a sufficiently long period to calculate a sufficiently robust average, also for roaming costs.

Concerning the access buyers' submissions that the data included in the tests must be from the same period, Nkom refers to how this is the case, as far as possible. However, in many cases it will be necessary to use historical entities to calculate a sufficiently robust average. With regard to the calculation of access costs, Nkom refers to how any rectification order will only be effective prospectively, and in this respect the current access prices will be assumed.

Nkom maintains the principle of a time perspective and in principles for margin squeeze tests has specified that normally a six-month perspective will be used to determine subscription distribution, revenue, volume and access costs.

Nkom will supplement the ordinary periodic margin squeeze tests with parallel tests that normally require data growth equivalent to the development in Telenor's customer portfolio that is included in the margin squeeze test. These parallel tests will take place at the same time as the ordinary margin squeeze tests and will mainly be used for information purposes. In concrete terms, parallel tests will be like the ordinary tests, but with a difference in the modelled volume of mobile data. The tests will be an appropriate indicator of whether Telenor's access prices will yield positive margins in the coming period, and the results of such tests can thereby be included in the assessment of the need for extraordinary tests. Nkom confirms Telenor's understanding that the parallel margin squeeze tests will not be an independent basis for a rectification order.

On the basis of the input, Nkom has clarified Principle 4 of the principle document.

Principle 5 – Frequency for conducting margin squeeze tests

Consultation comments

eRate agrees in principle, but adds that it is important that the tests are not retrospective, so that the access buyer is not continuously held in margin squeeze. eRate also believes that this can be resolved by more frequent tests.

Fjordkraft, Phonect and **Saga Mobil s**upport the principle of two annual tests, but would like to see the tests performed more frequently in order to capture the market dynamics.

Furthermore, the companies believe that the requirements for what triggers extraordinary margin squeeze tests should not be too restrictive.

Nkom's assessment

The access buyers' concerns regarding continuous margin squeeze must be balanced against appropriate use of resources and robust processes and tests. In Nkom's view, performance of margin squeeze tests at normally six-months intervals is an appropriate frequency for supervision of access prices. The tests are performed using real information from Telenor, and this naturally entails a retrospective perspective.

Comments received have not provided any basis to change Principle 5.

Principle 6 – Representative retail products

Consultation comments

Telenor claims that the criteria for determining whether a product is to be part of the margin squeeze test are unclear and unpredictable. Telenor is of the view that it is not possible for the company to foresee which products are to be tested before the end of the period included in the margin squeeze calculation. Telenor rejects that the company itself is able to calculate the margin for its own products, since it is not possible to predict the specific customer development in the coming six months. Furthermore, Telenor takes the view that new call plans are launched most effectively with campaign offers, and if these are given disproportionate weight in the margin squeeze tests, Telenor's opportunities and incentives to compete aggressively with new call plans will be weakened. Telenor asserts that the margin squeeze test as such might weaken the competition vis-à-vis end-users. In addition, Telenor remarks that the company is perceived as being required to determine access prices that entail positive results at each margin squeeze calculation.

Oslo Economics submits that mature call plans will be systematically excluded when the tests only include around 70 per cent of the customer base; and it is the products that are most representative of the competition profile that are selected. This may be problematic in the MVNO tests. Oslo Economics is of the view that the results of margin squeeze tests are unpredictable because representative products and adjustment of weights are based on Nkom's discretion. Oslo Economics also takes the view that, even if a new call plan is representative, the customer base is not necessarily representative. Furthermore, Oslo Economics submits that even a small call plan can lead to breaches entailing correction of the access prices, and believes that the uncertainty can be reduced by introducing a threshold, so that the call plans below the threshold are not included in the tests.

eRate and **Happybytes** submit that in the margin squeeze test there should be the same representative selection of price plans as for the gross margin tests. Furthermore, eRate takes the view that 10 per cent of the number of subscriptions alone is too high, since only old subscriptions will be included in the test and the test does not show the current and relevant competition profile.

Atea, Fjordkraft and **Phonect** disagree with Telenor's submission that new retail offers launched at campaign prices should not be attributed great weight in the margin squeeze tests. The aforementioned access buyers refer to how competitors have to match the marketed prices in order to win customers. Phonect also takes the view that prices for current major customers should be incorporated into the business market.

Fjordkraft, Phonect and **Saga Mobil** agree that the products that are tested must be representative of the competition profile in the markets, but believe that far greater consideration than what is suggested must be made of which products are marketed during the period. The companies believe that it is not sufficient to solely consider Telenor's customer distribution at the time of the test, as this will never represent the products/prices to which customers are exposed at any time. The companies are also of the view that the requirement that one product alone must have at least 10 per cent should be lowered or removed, so that changes in the market are captured in margin squeeze tests. The companies take the view that products that define the competition in the market are products that are available on Telenor's websites, as well as "closed" products sold in stores, via telemarketing and so on. **Saga Mobil** also highlights prices in competitive tendering.

Nkom's assessment

Nkom would first point out that the obligation to offer access prices that prevent margin squeeze is ongoing, and that Nkom performs regular margin squeeze tests in order to follow up on Telenor's compliance with the obligation. The fact that some products are not tested does not mean that these can be priced in a way that does not allow access buyers to compete. In order to increase predictability concerning which products are included in the margin squeeze tests, Nkom nonetheless has already provided supplementary guidance concerning which assessments are made. However, both the authority and the operators must consider how the market development is also affected by customer demand, which is not always predictable. Nkom nonetheless believes that Telenor is the obvious party to maintain a continuous overview of its own revenue and margin sizes.

In this respect, it is relevant to refer to the Ministry's decision of 9 March 2018[23], which states that it is "*neither appropriate nor possible in advance to provide an exhaustive list of the products to be tested. This is because the retail market is dynamic and characterised by*

[23] The Ministry's appeal decision concerning Nkom's decision of 1 July 2016, p. 68.

changed supply and demand, and this must be reflected in the selection of representative retail products in order to facilitate sustainable competition in line with the purpose of the Electronic Communications Act." With regard to predictability for Telenor and the opportunity to comply with the price regulation, the Ministry writes that "*Telenor with its strong market position has good knowledge of which products are competed for at any time. Telenor must continuously assess the price level for their own retail products subject to competition against the level of the access prices, in order to verify compliance with the regulation*."

With regard to Telenor's and Oslo Economics' input that new call plans with campaign offers will quickly be attributed disproportionately great weight in the margin squeeze test and that mature products will be excluded, Nkom refers to how new products are particularly relevant in the competition profile and are therefore important to include in the tests. New products often have innovative elements, which can appeal to Telenor's existing customers and to competitors' customers. The margin squeeze test includes products that constitute around 70 per cent of Telenor's subscription base in each of the sub-markets, so that most of the customer base is tested. Nkom therefore believes that new call plans do not carry disproportionately great weight in the test. Nkom is of the view that the fact that Telenor believes that the inclusion of new call plans will "*weaken Telenor's opportunities and incentives to compete aggressively with new call plans"* supports the need for gross margin tests at product level, since Telenor hereby apparently indicates a goal to reserve elements of the market by offering products that competitors are not able to replicate in price terms.

Oslo Economics proposes the introduction of a threshold value for how small a share a product may constitute to be deemed to be representative. Nkom believes an exact threshold is unsuitable for as long as there is a certain dynamic in the market and movement in Telenor's total retail offers.

The submission from several of the access buyers appears to be based on a misunderstanding that a product must have as much as a 10-per-cent market share alone to be included in the margin squeeze tests. Most of the products included in the margin squeeze tests have a significantly lower market share than 10 per cent. If a product has achieved 10 per cent, as a general rule it must be included, due to its significant size.

Concerning the submission from Phonect to test each individual agreement, Nkom believes that it is not relevant to apply this level of detail at this time. We refer, however, to the discussion of competition problems in the business market related to Principle 6 in the principle document.

Based on the comments received, Nkom does not find any basis to change Principle 6, but maintains that the principle, with related guidance in the principle document, balances consideration of the operators' predictability with the market dynamics.

Principle 7 – Usage pattern and subscription distribution

Consultation comments

Oslo Economics (on behalf of **Telenor**) believes that assumptions must be made regarding the patterns of use, in order to be able to predict results in margin squeeze tests, which increases unpredictability. Oslo Economics refers to "*data.uplift.sensitivity"* in the margin squeeze test, which adds general data growth for all products, and states that even if Telenor were to predict the general growth, there would be call plans that increase more or less than the general growth. Oslo Economics believes this will have a great impact on the gross margin tests since access prices will have to be reduced even if estimates of average data growth are good.

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principles for usage patterns and subscription distribution.

Nkom's assessment

Nkom understands that the comments from Oslo Economics are related to Telenor's opportunities to use the model to estimate the impact of data traffic growth. The "*data.uplift.sensitivity*" functionality is intended to be a tool for Nkom to assess whether there may be a need to perform extraordinary margin squeeze tests in the coming period. In this respect, reference is made to Nkom's assessments concerning parallel tests related to Principle 4 above. Telenor itself is free to use this functionality.

The comments received do not give any reason to change Principle 7.

Principle 8 – Retail revenue

Consultation comments

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principle that retail revenue must normally correspond to Telenor's actual revenue from their own retail activities.

Atea points out a problem related to price lags in the business market. The company proposes a solution whereby all prices offered at Telenor are compiled and weighted in terms of size, and that this is the basis for regulation. The company takes the view that the competition takes place in the tender phase and not six to nine months later when offered prices become visible in a margin squeeze test.

Nkom’s assessment

Nkom acknowledges that the margin squeeze tests are performed on the basis of information from the preceding period. Nkom takes the view, however, that Atea’s proposal does not guarantee better accuracy or increased robustness. In Nkom’s assessment, the information originating from Telenor’s own traffic and accounting systems will be verifiable in a better way than a selection of tendered prices.

Nkom maintains Principle 8.

Principle 9 – Access costs

Consultation comments

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principle that access costs are modelled on the basis of Telenor’s reported consumption, as well as reference offers that fulfil the requirement of traffic-dependent prices.

Exempt from public disclosure: [redacted]

In its report, prepared on behalf of **Telenor**, Oslo Economics has submissions concerning how the access costs are calculated in the margin squeeze model, cf. the presentation of consultation input and Nkom’s assessments in Chapter 7.6.1.7.

Nkom’s assessment

Exempt from public disclosure: [redacted]

On the basis of comments received, Nkom maintains the principle of access costs, but has added a clarifying text in relation to Principle 9.

Principle 10 – International roaming costs

Consultation comments

Telenor cannot see that Nkom has given reasons for why it is more relevant to use the prices in Telenor's service provider agreement, rather than Telenor’s actual costs, or why it is not considered to be very realistic that an MVNO can achieve equivalent agreement terms to Telenor.

eRate, Fjordkraft, Phonect and Saga Mobil support the principle that international roaming costs in the margin squeeze tests for MVNO and service provider access are modelled on the basis of the price terms in Telenor's reference offer for service provider access.

Nkom's assessment

Nkom has used several sources to determine the principle concerning international roaming costs. Access buyers have informed Nkom that for an MVNO, it is not very realistic to be able to achieve equivalent price terms to the network owners. The European Commission's report on the implementation of the international roaming regulations[24] states that MVNOs typically pay more for international roaming than network owners, see Figure 4 in particular of the aforementioned report.

In the current regulation, the information from Telenor concerning the costs of international roaming had significant errors and incorrect accruals. Such errors and inaccuracies make the margin squeeze tests less accurate and less robust. Nkom considers it important to have the most accurate and relevant source possible for information concerning international roaming costs and has specified this in the principles.

Nkom maintains principle 10.

Principle 11 – Revenue and costs of interconnection

Consultation comments

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principles applied by Nkom concerning revenue and costs of interconnection.

Nkom's assessment

Nkom maintains principle 11.

[24] https://ec.europa.eu/digital-single-market/en/news/report-implementation-regulation-roaming-public-mobile-communications-networks-within-union

Principle 12 – Retail business costs

Consultation comments

Telenor refers to how costs for retail activities are determined on the basis of information from 2015 concerning the cost level. In Telenor's view, the absolute quantities from 2015 are based on figures from Telenor that were incorrect. Telenor has provided information on the correct figures and believes that Nkom must update the model with the correct facts. Telenor furthermore believes that it is vital that the cost trend for the variable costs is modelled so as to reflect Telenor's reported cost development.. Telenor claims that this is not the case in the submitted model, which leads to an overestimation of the costs, and refers to the more detailed account from Oslo Economics.

Oslo Economics takes the view that it does not seem reasonable to use 2015 as the basis for the retail costs, because costs associated with different types of end-users, fixed costs and the distribution between segments and call plans may vary over time. Oslo Economics illustrates graphically that variable costs, with the assumed cost trend for each segment, will give higher estimated costs per user for 2018 than Telenor's actual costs from the accounting separation. Oslo Economics believes that it is irrelevant to use data for years before 2015 to calibrate a cost trend, and furthermore that it is most natural to use regression analysis results.

Oslo Economics points out that the cost trend is not applied to fixed costs, and that Nkom and Analysys Mason have not described what supports this assumption.

Oslo Economics submits that assumptions concerning fixed costs of retail activities cannot be correct with both 5-per-cent and 3-per-cent market shares for the tested operator. Furthermore, Oslo Economics believes that the split between fixed and variable costs appears arbitrary, and that the conclusion concerning whether Telenor passes the margin squeeze test is critically dependent on this.

Oslo Economics points out that variable costs are rounded to the nearest NOK 10, which makes sense to avoid inflated accuracy (based on the model input), but furthermore believes that this gives significant variation, and therefore uncertainty, concerning the estimated margins.

eRate, Fjordkraft, Phonect and **Saga Mobil** support the principle of the costs of the retail activities.

Nkom's assessment

Costs of the retail activities to be included in the margin squeeze model are determined on the basis of discretionary assessments. Nkom has used information from several sources to determine what will constitute the best estimates. In the current regulation, Nkom has maintained that the assessments underlying the design of the margin squeeze model, which, among other things, specify the ratios of fixed and variable costs, will apply throughout the period. The model documentation[25] shows that assumptions pertaining to costs of retail activities are only updated in the event of significant changes in the market structure. No such significant changes have occurred, so that no change requirement has been triggered.

Claims from Telenor concerning errors in the absolute figures from 2015 are refuted. In a letter dated 11 December 2017[26], the company has specified the need for revision of the information provided two years earlier. Specifically, Telenor claims in this letter that the fixed share of capital expenditure costs must be reduced from Exempt from public disclosure: [redacted] to Exempt from public disclosure: [redacted] per cent, that the fixed share of costs written off must be reduced from Exempt from public disclosure: [redacted] to Exempt from public disclosure: [redacted] per cent and that the fixed share of marketing costs must be reduced from Exempt from public disclosure: [redacted] to Exempt from public disclosure: [redacted] per cent. In Nkom's opinion, this input from Telenor does not provide any basis to re-assess the price regulation as a consequence of Nkom's decision of 1 July 2016. Nor is the information of a nature that indicates significant changes in the market structure.

On the assessment of future regulation, and the specific design of the margin squeeze model, Nkom agrees with Telenor, however, that it is relevant to make an updated assessment of fixed and variable costs. The point of departure for the decision notification was that it was relevant to maintain the conditions for determining fixed and variable costs. Based on the input, Nkom has concluded that Telenor's submissions that the share of fixed costs should be reduced can be accommodated to some extent. The share of fixed costs for capital expenditure and depreciation is changed in accordance with the submissions from Telenor. The estimate for the marketing cost category is maintained at Exempt from public disclosure: [redacted] per cent, since Nkom does not find it reasonable that the share is determined in decimal terms. This level of precision has not been assumed for other cost categories. The economic effect of the change is not significant, but tends to give a higher margin in the margin squeeze test.

Telenor and Oslo Economics have submissions concerning the calculation of the cost trend, with regard to the calculation method and also the number of years on which the calculation is based. Oslo Economics takes the view that the trend must be determined either on the basis of regression analysis or calibrated to the 2015-2018 period. Nkom does not refute that the cost trend can be determined in various ways and, after reconsideration, has concluded that a

[25] See "Model documentation for margin squeeze model, M15", figure 3.1, https://www.nkom.no/marked/markedsregulering-smp/%C3%B8konomisk-regulering/marginskvistest-marked-15-2015-2016
[26] Comments on notification of decision, document 1605084-72 in Nkom's archive.

regression analysis must be applied, based on Telenor's reporting of accounting separation for the years 2014-2018. The updated cost trend that is applied in the margin squeeze tests will therefore be minus Exempt from public disclosure: [redacted] per cent for the residential market and minus Exempt from public disclosure: [redacted] per cent for the business market.

Oslo Economics would like to know the reason that the cost trend is not used for fixed costs. Nkom maintains that a flat, nominal cost trend is a neutral condition. Fixed costs will reflect a minimum of costs in the course of a year and will be the result of working hours and other resources. Increased efficiency can reduce the number of working hours, but pay growth would balance the effect. In the absence of any more robust source material for this element, while fixed costs constitute a very limited proportion of total costs, Nkom maintains that the cost trend should not be applied to fixed costs.

With regard to Oslo Economics' submissions that fixed costs may not be the same for 5- and 3-per-cent market shares, Nkom refers to how the modelling of costs is intended to be representative for a reference operator with a minimum effective scale. Even though the efficiency requirement has been changed from 5 to 3 per cent, this is not a factor that entails any change in the assumed underlying costs.

With regard to Oslo Economics' submission concerning a random split between fixed and variable costs, reference is made to the aforementioned assessments.

Oslo Economics believes that rounding to the nearest NOK 10 gives significant variation and uncertainty concerning estimated margins. Nkom maintains that rounding is reasonable since estimates in the information received are used, and in particular since the effect is negligible. In Nkom's view, the rounding of variable costs to the nearest NOK 10 per subscription per year will not entail significant variation[27] and will not contribute to uncertainty.

The combined submissions concerning this aspect have led Nkom to decide to change the size of fixed costs that are the starting point for determining the costs of retail activities. Nkom has also changed the method of determining the cost trend. The specific changes are described above and have led Nkom to adjust the margin squeeze model and also Principle 12 in the margin squeeze test principles.

[27] On calculating fixed and variable costs for the residential market and the business market, respectively, the difference with and without rounding will be less than 0.25 per cent for each of the cases.

7.6.1.6 The margin squeeze model

Consultation comments

Oslo Economics, which on behalf of **Telenor** has reviewed the margin squeeze model, believes the model is simplified compared to previously, but that the model is still complex. Oslo Economics submits that the test does not give a correct picture of margins, even though all input data is correct, and in this regard cites the calculation of ARPU (average revenue per user), as well as fixed access costs and discounts in the gross margin tests. Oslo Economics also submits that the input data in the test is not correct and points to the allocation of fixed and variable costs to retail activities, as well as cost trends and the weighting of call plans.

In terms of the calculation of ARPU, Oslo Economics submits the following:

- “Lock-in fees” are included in “Handset revenues”, and are therefore not included in gross margin tests. This is consistent for lock-in regarding handsets, but inconsistent for the other components.
- There is an error in the formula for calculating the termination revenue for text messaging. Furthermore, whether termination revenue is to be based on revenue or volume should not be an option in the model. Voice termination revenue is calculated on the basis of volume, but should be based on revenue data, among other things to be consistent with how the termination revenue from text messaging is calculated.
- It appears that “Monthly fee in add-on service” is excluded from the model. This should be under “Recurring” in the model.

Oslo Economics takes the view that establishment costs, as well as monthly operating costs, are fixed costs for the access buyer and are not associated with profitability concerning the offer of a concrete call plan, and it is therefore inconsistent to include these costs in the gross margin test. Oslo Economics also believes this is inconsistent with the Market 15 notification, item 407, which states that gross margin tests entail that revenue from one product must cover the costs associated with the same product.

Oslo Economics furthermore believes that it can be discussed whether discounts are handled in a way that gives a correct picture of gross margin, and believes that it may be appropriate to apply a marginal discount.

Oslo Economics considers it problematic that the weights of the representative products are hard-coded into the model, and that this contributes to making the margin squeeze model unpredictable for Telenor. Oslo Economics is of the view that the model should clearly show how the weights are calculated, including the reason that subscribers to older call plans are used to add weight to existing call plans. Telenor and Oslo Economics have, in a video meeting with Nkom on 5 November 2019, elaborated on the comments on weighting of ARPU, and think that the weights should be based on average number of subscribers in the tested period.

Nkom's assessment

Nkom agrees that the margin squeeze model is simplified compared to previously, but does not agree that the model is disproportionately complex.

Revenue linked to "Lock-in" (binding subscription period) includes "lock-in fees", which are related to repayment of handsets; "lock-in invoice reductions", which relate to the invoice discount in exchange for lock-in time; and "breach of lock-in contract", which is the fee for breach of the lock-in period. "Lock-in fees" are included in "Handset revenues" in the margin squeeze model and are thus only included in the full margin squeeze tests. In the previous margin squeeze model, "Lock-in invoice reductions" were processed together with other monthly revenue. In the notified margin squeeze model, this category was erroneously included under "Handset revenues". This is corrected in the margin squeeze model with the accompanying questionnaire and model documentation, so that "lock-in invoice reductions" are under "recurring" as before. With regard to "breach of lock-in contracts", in 2016 this was considered to be closely related to handsets, and this was continued in the notified margin squeeze model. Nkom has performed a new assessment and found that breach fees are considered to be less related to handsets in 2019 than in 2016, and that the breach fee should therefore be handled together with "other fees" in the margin squeeze model. This is corrected in the margin squeeze model with the accompanying questionnaire and model documentation.

Oslo Economics is right that there was an error in the formula for calculating the termination revenue for text messaging in the notified margin squeeze model. This has now been corrected. Concerning the calculation of termination revenue, Nkom refers to Principle 7 of the principle document. Nkom will normally base termination revenue and -costs on the regulated prices for voice termination and the price for text messaging termination from Telenor's reference offer for interconnection. In the case of text messaging termination revenue, Nkom has chosen to deviate from this starting point because there is a lower price for termination of bulk messages or text messaging access, and the revenue from this type of message is increasing. Nkom does not agree that voice termination revenue should be based on revenue data in order to be consistent with the calculation of text messaging termination revenue, since the aforementioned development for text messaging does not apply to voice termination. In the notified margin squeeze model, an opportunity was added to choose whether text messaging termination revenue should be based on volume or revenue, to make it easier to compare results from the previous and the notified margin squeeze model. Since the text messaging termination revenue should be based on revenue, the option in the model should be set to "1" if the model following the notification were used. However, in the margin squeeze model following the final decision, this option has been removed.

“Monthly fee in add-on services” has gained a new description compared to the previous margin squeeze model, and is now called “fees for add-on services”. “Fees for add-on services” was already included in the notified margin squeeze model, in the “other fees” category. “Other fees” and “recurring” are treated in the same way in the margin squeeze model.

For service provider access, Telenor must pass gross margin tests for each of the products in the test. Nkom does not agree that fixed access costs should not be included in the gross margin tests, or that this is inconsistent with the wording of the decision. Nkom takes the view that all access costs must be included in the margin squeeze tests, in order to give a correct picture of the access costs. In gross margin tests, each product must therefore carry its respective share of fixed access costs. The distribution will be based on the individual product’s share of calculated traffic-dependent access costs in the residential markets and business markets, respectively. Nkom has clarified this in Principle 9 of the principle document.

Chapter 7.5.7 of the decision states that gross margin tests for service provider access assume an operator with a 3-per-cent share of the residential markets and business markets, respectively. Nkom believes that volume discounts in the gross margin tests must be based on the calculated total volume discount for the tested operator with a 3-per-cent market share and that each product in the test should have its respective share of the discount achieved. The distribution will be based on the individual product’s share of calculated traffic-dependent access costs in the residential markets and business markets, respectively. Nkom has clarified this in Principle 9 of the principle document.

The weights of the representative products were hard-coded in the notified margin squeeze model, but in future will be linked to the spreadsheet in which the calculation is made. Telenor has received this spreadsheet on several occasions and thereby has a basis to see how the weights are calculated. Nkom therefore does not agree that this is unpredictable for Telenor. Concerning the justification if the weights are adjusted, Nkom refers to how Telenor will receive this information in connection with data retrieval, normally in letters ordering the disclosure of information concerning representative products.

In the margin squeeze model, the weights for each product in the test are based on the number of subscriptions at the end of the period being tested. The relative weights of the products are adjusted so that each retail market has a share in the test that corresponds to Telenor's actual subscription distribution at the same time. Nkom maintains this method for calculating weights. In this way, the distribution between the products will be representative of the competition situation at a time close to the test. Nkom also points out that the calculated level of retail business costs reflects the end of the period being tested, and that access costs are based on current access prices at the time of the test and not on an average of prices during the period.

Oslo Economics' submissions related to the retail business costs are summarised and responded to under Principle 12.

7.6.1.7 The report "Quantifying uncertainty in the Nkom margin squeeze model"

Consultation comments

On behalf of **Telenor,** Oslo Economics has compiled the report "Quantifying uncertainty in the Nkom margin squeeze model". The report concludes that Telenor, at the end of a six-month period, cannot predict whether the margin squeeze tests will be passed. Oslo Economics believes that Nkom's decisions concerning which retail products are representative are unpredictable and create uncertainty for Telenor.

Oslo Economics supports its submissions concerning unpredictability with claims that Nkom deviates from fixed criteria for the selection of retail products. Furthermore, Oslo Economics believes that the relative weight given to new products that fully or partly replace older products increases the unpredictability.

The report gives an account of alternative margin calculations that assume various selections of representative retail products. In these alternative calculations, Oslo Economics finds, among other things, that the results in the business market will vary by at least 17 percentage points and that assumptions concerning the increase in future data growth increase the variation by a further 5 percentage points. Furthermore, Oslo Economics' own calculations show that individual products in the "mobile broadband" family can give a positive gross margin, while others give a negative gross margin, and an aggregated test of the entire family will give a positive margin.

According to Oslo Economics, the requirement of a positive gross margin per product, as stated in the principle document and the actual margin squeeze model, entails that each product is implicitly assessed as a separate market. According to Oslo Economics, this conclusion is erroneous, since call plans within a market are mutual substitutes, so that there is no need to offer an identical call plan to be able to compete for customers for a particular call plan.

Oslo Economics furthermore claims that it is not relevant to measure margin per product or call plan, since average margins are more important for service providers' opportunities to compete in the market than margins for individual call plans. In addition, Oslo Economics takes the view that the calculated gross margin for individual retail products depends on which other retail products are included as representative products.

Oslo Economics claims that estimating future volume development is challenging, but also believes that it is rather simpler for the overall market than per call plan.

Nkom's assessment

Nkom believes that the report from Oslo Economics makes submissions concerning the actual margin squeeze model and the market definition, as well as elements of Nkom's analysis of competition problems. A number of submissions are made which mainly concern the lack of predictability for Telenor.

In terms of predictability, Nkom refers to how equivalent submissions are assessed under Principle 6, where Nkom maintains that principles for representative products are described in full. The selection criteria entail a certain degree of discretion to be exercised each time a margin squeeze test is performed. The method thereby balances the need for operators' predictability with the development in retail offers. Furthermore, Nkom does not agree with the claim that Nkom deviates from the criteria, referring to how the examples cited by Oslo Economics do not provide all the relevant information necessary to assess whether products are representative of the competition situation. On assessing whether retail products are considered to be representative of the competition situation in the market, weight is given, among other things, to whether the product is sold, whether the product is offered to new customers at a campaign price, and whether the access buyers have equivalent products that compete directly with Telenor's product. The aforementioned criteria are not exhaustive.

Concerning the specific calculations from Oslo Economics, Nkom has not examined these, and therefore does not refute that a margin squeeze test with other assumptions concerning retail products than those on which the decision notification is based might give the specific results. However, Nkom maintains the notified assumptions concerning the retail products.

Nkom furthermore disagrees with Oslo Economics' conclusion that the gross margin test per product entails that each product is considered to be a separate market. The positive gross margin per product requirement is designed to alleviate competition problems for service providers and to facilitate that these operators have the same opportunities to compete as other operators within the relevant retail markets. Nkom refers to the grounds for the choice of test stated in the Chapter 7.5.7 of the decision. In other words, the margin squeeze test is designed for a lower aggregation level than the retail market in order to alleviate the competition problems in the market. The design of the instruments cannot be used to explain another market delineation than assumed by Nkom in the market analysis.

Nkom believes that the specific submissions from Oslo Economics appear to recommend a higher aggregation level in gross margin tests and to a greater extent use average revenues, preferably for “product families” combined. Nkom disagrees with Oslo Economics and maintains the conclusion that the design of the specific price regulation is proportionate in view of the competition problems which the instruments are intended to resolve, cf. the assessments in Chapter 7.5 of the decision.

With regard to the comment from Oslo Economics that the result per product in the gross margin test will depend on the composition of representative products, this is partly a correct observation. Volume discounts on access costs are calculated on the basis of total revenue and are therefore allocated per product based on revenue per product. The same applies to the elements of access costs that are fixed[28]. Nkom maintains that this is the most robust method of determining access costs for each product in the gross margin test.

With regard to the submissions concerning estimates of future growth in mobile data, Nkom refers to our assessments under Principle 7 above.

7.6.1.8 Supplementary comments from Ice concerning price regulation

Consultation comments

Ice believes there are several aspects of today's regulation and in the notification which entail that operators with national roaming agreements are penalised for increasing the traffic ratio in their own network, thereby reducing opportunities for effective competition. This applies to:

- **The size of the reference operator for national roaming:** It is unfortunate that the size of the reference operator for MVNO and service providers is reduced without any equivalent assessment being made for national roaming. The size of the reference operator for national roaming must be reduced equivalently to the notified relative change for the reference operator for MVNOs and service providers, i.e. reduced from 20 per cent to 12 per cent.

- **Non-linear prices at user level:** A final decision must state that Telenor is required to offer a price structure for national roaming that does not entail a de facto SIM fee per

[28] For example, establishment costs and fixed monthly costs.

user, and where the average cost per purchased megabyte per user does not increase with a higher ratio of own data production.

- **Volume discounts (non-linear prices) on total volume:** As the ratio of traffic in its own network increases, an operator with national roaming will buy an increasingly smaller ratio of traffic than is assumed for a national roaming reference operator. If Telenor is permitted to use volume discounts on total volume, this might therefore lead to the operator paying a far higher average wholesale price for national roaming than the average wholesale price at 100 per cent roaming, and which might be tested in the margin squeeze model. As Ice sees it, it is particularly detrimental to competition if Telenor is allowed to use other entry points and discount rates on volume discounts for the total volume of national roaming than for other types of access. It is difficult to see how there would be any good efficiency argument for a national roamer not obtaining at least the same good discount terms as other types of access. Regulation must express how an offer of national roaming cannot include volume discounts on total volume that deviate from equivalent volume discounts offered to service providers or MVNOs.

- **Increasing access prices with increasing traffic ratio in own network:** The possibility of increased access prices at high own coverage, as outlined in the notification, is very unfortunate since it weakens the motivation to increase own coverage. Ice also cannot see that there is a reasonable cost argument for any such an increase in access prices. The additional costs of granting access will typically be lower in sparsely-populated areas because already-developed capacity has lower capacity utilisation, so that access requires less capacity expansion. The hosted traffic on an increased own share of traffic not only occurs in sparsely-populated areas, reference the problems with handover that also involve roaming in central areas. Furthermore, for some time Telenor has received financial support from state and municipal authorities for the development of both fibre and mobile infrastructure in sparsely-populated areas. It is also difficult to see how production costs are of any relevance to the margin squeeze assessment. Margin squeeze regulation is a form of “price minus” regulation that is based on the regulated operator’s sales prices. The regulated operator’s production costs for the services purchased are therefore not included in this calculation. Nkom must therefore make it clear in the final decision that Telenor’s national roaming prices may not depend on the access buyer’s share of own production.

- **Model assumption concerning 100 per cent purchase through the roaming agreement:** If Telenor is allowed to use volume price models that have progressive elements, the average access price for an operator producing a large share of the traffic in their own network might be substantially higher than what can be seen from the margin squeeze model. In addition, the fact that Telenor is permitted to operate with non-linear prices will also result in the margin squeeze model for national roaming having to be tested for the volumes actually purchased by the operator running traffic through their own network. The final decision must show that average prices for national roaming per purchased megabyte, text message or minute for actual volumes purchased may not exceed the maximum average prices according to the margin squeeze model for 100 per cent purchase.

- **Price model in margin squeeze test:** For national roaming for which there is only one relevant customer in the foreseeable future, any agreement on access to national roaming will be based on negotiation, and not the acceptance of a reference offer. Both the provider (Telenor) and the possible customer (Ice) will be able to require the opportunity to assess different agreement structures. It must be apparent that the obligation not to subject the access buyer to margin squeeze will apply to all offers made and that the margin squeeze model will be tested for any final national roaming agreement, as well as the offer made by Telenor. Nkom must also specify that an offer of bulk price access may not entail a margin squeeze or include volume discounts.

- **Payment terms:** A requirement concerning a deposit, prepayment and card payment deadline may tie up a disproportionately large amount of capital, which could contribute to delaying the development of a third network. It is of significant importance that in the regulation of wholesale access to national roaming Nkom clearly specifies that the payment terms in a mandatory offer must adhere to normal payment terms, with 30 days' credit, and that Telenor is not permitted to require the provision of a guarantee.

- **Sanctions concerning margin squeeze:** Even though in several instances Telenor has not passed the margin squeeze test, the company has never been subject to sanctions for breach of the requirement not to subject the buyer to margin squeeze. Section 10-13, first paragraph, no. 3 of the Electronic Communications Act concerning an infringement fee for breach of individual decisions does not provide for levying infringement fees for individual decisions taken pursuant to Section 4-9, which is the legal basis for Nkom's notification of a margin squeeze prohibition. Section 12-4, first paragraph, no. 3 of the Electronic Communications Act stipulates, however, that breach of individual decisions under Section 4-9 can be penalised by law. In any final decision, Nkom must therefore clarify that a breach of the prohibition on subjecting access buyers to margin squeeze will always be subject to sanctions and repayment will be required. Nkom can and should follow up infringements by reporting them to the police, in particular in the case of repeated transgressions.

In its comments, **Telenor** writes that the input from Ice to reduce the market share of the reference operator to 12 per cent entails regulation that promotes the establishment of ineffective operators, which is in conflict with the specified objectives of the regulation.

Furthermore, Telenor maintains that Ice's input will entail that Telenor will not be paid for the investments made and which continue to be made in order to maintain the best cover throughout the country. Like Ice, Telenor refers to how the last 10-20 per cent of a nationwide network is the most cost-intensive. In Telenor's view, the consequences of the inputs from Ice might counteract, rather than promote, investments in expanding a network. For Ice too, buying traffic from Telenor would probably be more profitable than building the last 10-20 per cent of a nationwide network based on this average price. Telenor therefore considers it to be vital that Nkom maintains the assessment that the access price for an operator with a national roaming agreement that has a well-developed network and a high share of traffic in its own network may be higher than the average price based on nationwide use.

Telenor disagrees that the current price structure de facto is a fixed-price model. The prices offered by Telenor are variable and depend on the use of Telenor's network. This also implies that the costs of access lapse if the access buyer's customers do not use Telenor's network.

With regard to the provision of a guarantee for access to Telenor's network, Telenor refers to how the company has a legitimate interest in securing payment from customers. Telenor currently has payment in arrears and payment terms of 30 days for national roaming. This entails that if the national roamer does not pay their invoices, Telenor can lose at least four months' payment before the network access can be closed. Telenor must have security for this.

In conclusion, Telenor believes that applying sanctions against Telenor, including reimbursement orders, for any failed margin squeeze tests is disproportionate in view of the lack of predictability in the execution of the tests.

Nkom's assessment

Subsequent to the consultation, Nkom has reassessed the use of margin squeeze tests for national roaming. To test the margins for a network operator that has on-net traffic in addition to buying national roaming has challenges, among others because the operator's own production costs are not known. Nkom has therefore concluded that access prices for national roaming should be regulated on the basis of the regulated prices for MVNO access, as well as requirements for relative price levels between the access forms, so that access prices for national roaming should not exceed the access prices for MVNO. Nkom refers to chapters 7.5.3 to 7.5.5 of the decision for further details. The change means that there is no need to set a separate efficiency requirement for national roaming, as was done in the notification.

Ice claims in the consultation response that surcharges in sparsely populated areas weaken the incentives to roll out their own coverage and that it cannot be justified on a cost basis, while Telenor argues that for Ice it will probably be more profitable to buy traffic from Telenor rather than building the last 10-20 percent of a nationwide networks if an average price is applied.

Nkom believes that there are two factors that are particularly important in the assessment of price controls for national roaming. The price regulation should provide incentives for further development of the third network, while at the same time Telenor must be ensured cost recovery. Telenor's access prices are currently regulated according to the prohibition against margin squeeze, and this results in prices that are well above cost-oriented levels. Nkom believes there is little doubt that Telenor will achieve cost coverage under the current regulation. This is supported by a comparison of Telenor's access prices with wholesale prices for international roaming and the European Commission's cost model, see the decision Chapter 7.6.

In order to incentivize further roll-out of the third network, Nkom has, after the limited consultation conducted in January 2020, considered methods other than geographically differentiated prices. Nkom has concluded that a clear time limit on the price regulation for national roaming will be the most appropriate way to incentivize rapid and efficient further roll-out of the third network in the coming regulatory period. We refer to Chapter 7.5.5 of the decision for further details.

With regard to non-linear prices at subscription or SIM level, Nkom refers to our assessments in this summary Chapter 7.3.3 and 8.2.

Nkom finds that discounts that depend on total volume or revenues can be an objective basis for price differentiation in access agreements[29]. However, discounts should not be designed in a way that has anticompetitive effects, for example in that certain players receive disproportionately large volume discounts without these being justified by cost savings. Nkom has stated this in Chapter 7.2.3 of the decision

It is the reference offer for MVNO access that will be tested in the margin squeeze model. To the extent that operators negotiate other alternative pricing structures, these shall be offered on terms that do not entail higher access costs for the requesting operator than the reference offer. Telenor will have the burden of proving that the pricing requirement is met based on the access buyer's own usage pattern. Concerning the bulk price agreement, in the decision Nkom requires that an offer of bulk must have an average price that is lower than the variable price of

[29] Ref. the Ministry of Transport and Communications' decision dated 9 March 2018.

access, given that the entire bulk volume is used. Average price per minute, text message or MB must be declining with increasing volume purchased in bulk.

Regarding terms of payment, Nkom refers to Chapter 7.1.7.4 of the decision, which states that the guarantee requirement must be proportional to the business risk that Telenor runs by granting specific access and being proportional. The specific payment terms must be assessed in each individual case.

Nkom will follow up potential breaches of the requirement not to subject the access buyer to margin squeeze, by assessing whether the remedies provided for in the Electronic Communications Act and the Electronic Communications Regulation are to be used, including whether the conditions are fulfilled. Nkom will use remedies such as the rectification requirement, coercive fines or, at the request of the provider, the repayment requirement, in cases where this is deemed to be necessary, appropriate and proportionate. How the case should be followed up will be assessed in each individual case. Nkom refers to Chapter 7.8 of the decision for further review of instruments and sanctions.

On the basis of the input mentioned above, Nkom has changed price controls for national roaming agreements. In addition, the requirement of traffic-dependent, variable prices is specified as stated in Chapter 7.3.3 of this summary. Nkom does not find any basis to make any other changes to the decision.

7.6.2Price control for co-location

7.6.2.1 Design of the cost-orientation requirement

Consultation comments

Ice is of the view in its consultation input that cost orientation requirements must apply to the individual site. If it is upheld that a significant part of the costs of a site is independent of the number of users/quantity of transmission equipment, it will give a cost advantage to locate transmitters from several mobile operators in the same mast, and the average cost per user of the site will be lower. A requirement of cost orientation in the regulated provider's network on a combined basis thereby entails that operators buying co-location will subsidise the regulated provider's sites where there is no co-location. Ice illustrates this in their comments, with a simplified example.

Furthermore, Ice has the following input on the cost orientation requirement:

- It must be inspected that all internal use of the operator’s sites is included on the distribution of costs in the cost accounts, in the same way as third parties’ use.

- To the greatest possible extent, identifiable costs should be used for the individual placement. Ice experiences how costs for e.g. power consumption in their own masts distributed by operator are significantly lower than the invoiced cost of power consumption on co-location at Telenor.

- The cost-orientation requirement must apply separately to ongoing use and the establishment of co-location. The operator will typically have an incentive for the redistribution of revenue from ongoing use to establishment, in order to pass on a larger part of the costs of the operator itself, which can be assumed to account for the predominant share of the use of the operator's network, to operators in the development phase.

- If the current construction contribution scheme is continued, the scheme must also apply to Telenor’s own operations, e.g. when Telenor chooses to extend a mast due to the need to set up new antennas. Otherwise such extension would be fully included in the cost basis for access to co-location and be partly covered by access buyers.

- Ice is critical towards the scheme whereby investments covered by the requester are to be capitalised in Telenor’s accounts. This entails subsidisation of Telenor, particularly when the capacity expansion provides greater capacity than required by the requester[30].

- Co-location cost accounting must be filed and assessed by Nkom semi-annually, i.e. at the same interval as margin squeeze tests.

- Nkom must give clear signals for how they will inspect compliance with the regulatory framework for co-location. Nkom must give an account of how they will assess the cost accounts submitted, and make it clear that a breach of the cost-orientation obligation will result in the imposition of a rectification requirement, repayment and sanctioning in the form of an infringement fee.

In the memo of 22 January 2019, item 5.2.10, Ice argues that it is necessary to actively monitor the cost accounting and that the regulated businesses actually comply with the various obligations. Ice expresses that an obligation to submit cost accounting must also be supplemented with a reporting obligation, and that the report should cover conditions that can

[30] Ice refers to the memo to Nkom of 22 January 2019, item 5.2.6, which expands further on this.

show whether the operator's obligations in accordance with the decision, including the equal treatment requirement, are complied with. Ice proposes the introduction of requirements for the periodic submission of cost accounts and co-location activity reports.

Telenor commented on Ice's input that the price of co-location should be determined on the basis of cost accounts per site**.** Telenor expresses how cost accounting per site will result in very extensive analysis, and far more detailed registration in the accounts than is the case today. Nor is there any analysis that supports Ice's claim that operators that buy access subsidise the regulated provider's other sites. At cost-oriented prices based on total aggregated cost accounting, Ice will face the same cost as Telenor's own network operator, including any scale advantages and economies in the area

Nkom's assessment

Ice's input concerning cost accounts per site has previously been put forward in several contexts. Nkom maintains that the principle of aggregated cost accounting is the only appropriate solution. There is no basis for claiming that aggregated cost accounting entails that operators which buy co-location subsidise the regulated provider.

The co-location cost base consists of all costs associated with Telenor's sites/locations. However, only a proportion of these are attributable to the co-location product. The proportion that is attributable is determined by an distribution key based on the proportion of equipment located by Telenor and other operators in the network. Reserved space or free capacity does not affect the distribution key nor the proportion allocated to co-location. For example, when Telenor invests in a new base station used only by Telenor, this cost will be included in the co-location cost basis. At the same time, the equipment placed in the base station will be included in the calculation of the distribution key for the co-location product. This means that the cost basis increases, but that the proportion allocated to co-location is reduced. The effect on the co-location cost accounting will then depend on the cost of the new base station and the amount of equipment located in the base station.[31] Nkom finds no reason to believe that Telenor at its own initiative invests in locations that they are not to use themselves and locate equipment in, in order to pass on the costs to the requester. In such case, this would be at the expense of other investments by Telenor. Ice's example does not take account of any such distribution key and thereby does not illustrate the cost distribution as described above.

If Telenor themselves benefit from an expansion by choosing a capacity expansion solution that provides greater capacity than the requester requires, Telenor must reduce the construction contribution equivalently. Nkom has specified this in the decision.

[31]Letter from Telenor to Nkom dated 8 April 2013 in conjunction with Mobile Norway's appeal concerning co-location gives information on the allocation of costs to the co-location cost accounting (case 1105388).

With regard to Ice's input on the inspection of the cost distribution, Nkom refers to how a requirement is imposed on Telenor to obtain confirmation of the cost accounting from an external auditor. In the decision, Nkom has specified that an auditor must check that distribution keys fulfil the cause and effect requirement.

Ice also states that, to the greatest possible extent, identifiable costs should be used for the individual location, including for power consumption. Nkom does not disagree that identifiable costs may be applied to elements of the invoicing of access buyers. At the same time, this must be weighed against the predictability for access buyers inherent in a standard and relatively transparent calculation method. In this respect, Nkom refers to how Telenor has a public price list that among other things describes how power consumption is calculated. Nkom does not see any need for further specification in the decision of how power consumption is to be invoiced. The decision does not require this level of detail. In general, however, Telenor's lease prices are determined on the basis of average calculations and are not based on costs for the individual location. Nkom maintains this principle from previous decisions, since it is a practical and predictable solution that, seen in the context of the aggregated cost accounting, ensures that access buyers have access to co-location at cost-oriented prices.

The cost accounting does not distinguish between ongoing use and establishment. The cost-orientation requirement generally applies to co-location at an aggregated level, but Nkom has furthermore in this decision clarified and defined the cost-orientation requirement for construction contributions. For new establishment entailing construction contributions, the cost-orientation requirement applies at a less aggregated level, i.e. down to the individual capacity expansion. As of today, Nkom does not deem it appropriate to further split the requirement.

Nkom has also envisaged closer follow-up of the cost accounting whereby annual reports with audit statements must be submitted. Nkom does not find it appropriate to further increase the frequency. Since the decision also tightens the requirements for cost-oriented construction contributions, it must be expected that this can also generate further use of resources. Annual reporting of cost accounting for co-location is assessed to balance the use of resources for this obligation against other obligations. The cost accounting will be followed up and inspected in the same way as other accounting reports to Nkom. If the reporting reveals a breach of the cost-orientation requirement, in the first instance this will entail imposing a rectification requirement. It must be assessed in concrete terms in each case whether breach of the obligations is to be followed up further with, for example, a decision on repayment or sanctions in the form of an infringement fee.

As described in the summary, Chapter 7.3.2, Nkom believes that further fixed reporting is not appropriate, but Nkom can nonetheless obtain quantitative information in conjunction with co-location, cf. Section 10-3 of the Electronic Communications Act.

Based on the comments from Ice, Nkom has made certain clarifications in the text of the decision relating to the cost accounting and follow-up thereof.

7.6.2.2 Construction contributions

Consultation comments

Telenor refers to how, in the notification, Nkom imposes a requirement on Telenor to prepare a specified invoice for construction contributions based on actual incurred costs. In this respect, Telenor comments that for Telenor's access buyers, which may also be a competing MNO, Telenor cannot share detailed cost information that, among other things, relates to Telenor's contractor agreement. Telenor specifies conditions concerning price elements and construction contributions, technical solutions and specific offers of locations requested by an access applicant, as far as this is possible.

Telenor wishes to maintain a model for construction contributions based on experienced figures. According to Telenor, this model provides faster processing time for offers and greater predictability for Telenor and the requesting provider. If, in the final decision, a requirement is imposed on Telenor to specify the invoices beyond what is done today, this will entail increased use of resources in the form of both new appointments and time consumption. This will lead to increased costs associated with the co-location product for Telenor, thereby increasing prices for the customer.

Furthermore, Telenor considers it unreasonable that Telenor has to cover the part of the requesting provider's construction contributions which exceeds 15 per cent of the price estimate. For a craftsman, actual costs of the measure that are lower than the price estimate will be to the benefit of the craftsman. This balance is not reflected in the notification, and reference is thus only made to the Norwegian Craftsman Services Act on any exceeding of the price estimate. Telenor is of the view that in such case the requesting provider must cover actual costs. Otherwise, Telenor will to a greater extent have to spend more time on the tender documentation than is the case today, where it is based on experienced figures. Detailed project design, inspection and requests for tender from the contractor will then be necessary before an offer is prepared for the requesting party. This tender documentation will be priced on the basis of the time spent.

Ice comments on Telenor's input and writes that an invoicing model based on "experienced figures" gives no assurance that the construction contributions required relate to the actual costs, and can be difficult for the access buyer or Nkom to test. As Ice sees it, it may be appropriate, however, to allow experienced figures to be used for the tenders, as described by Nkom in the notification of decision.

With regard to Telenor's assertion concerning increased costs for invoice specification, Ice refers to how the company already pays a high case processing fee at Telenor and that Telenor, in any case, keeps accounts according to general cost accounting requirements and the requirement imposed for specific co-location cost accounting. It is thereby difficult to see how the requirement could have the far-reaching consequences claimed by Telenor. Moreover, it is difficult to see how Telenor can obtain "experienced figures" without maintaining an overview of the actual costs. Ice also finds it difficult to see how further invoicing of costs from the contractor would not be possible. There will be no question of insight into the contractor agreement, but only the actual accrued costs.

With regard to Nkom's notified requirement that construction contributions actually charged may not exceed 15 per cent of the price estimate, Ice refers to how it is important that Ice can relate to the estimate given in the offer, and that the price tag is not considerably higher, especially due to financial predictability and Ice's opportunity to budget the expansion.

Nkom's assessment

Nkom notified that offers to a requester can be given on the basis of experienced figures, but that the subsequent invoice must be based on actual costs. Nkom notes that, for several reasons, Telenor wishes to invoice construction contributions on the basis of experienced figures, also due to time spent and confidentiality. Nkom cannot see that invoicing based on actual costs will delay the process or require substantially more resources. Telenor keeps accounts based on actual costs, and it should not be problematic to re-invoice these costs. An overview of actual costs will also be necessary in order to generate good experienced figures.

Nkom furthermore upholds that Telenor has relatively extensive and robust experienced figures and that the risk for Telenor of a requirement of a maximum 15 per cent mark-up on the offer (which may be based on experienced figures) is thereby not disproportionately high. The requirement of a maximum 15 per cent mark-up is necessary to give the requester predictability and the opportunity to make a real assessment of various alternatives. In this respect, Telenor refers to how a craftsman will be able to profit from the fact that actual costs are lower than the price estimate (assuming that the craftsman will still invoice in line with the offer), while for Telenor the regulation entails that there will be no such upside, due to the requirement to invoice on the basis of actual costs. However, Nkom refers to how the regulation of co-location is precisely intended to ensure that other operators, in a predictable and verifiable way, are granted location at a cost-oriented price, and that there is thus no profit for Telenor on this regulated product.

In terms of confidential contractor agreements, Nkom believes that the costs must be specified as far as possible. In the decision, Nkom has specified that the costs must be documentable to Nkom. Where costs cannot be specified to the requester, Nkom assumes that they can still be reconciled and documented as the decision requires.

8 Additional consultation concerning price structure and price regulation

Assessment and conclusion in draft decision of 13 December 2019

In the draft decision published on 13 December 2019, Nkom required that Telenor offer an access agreement with a linear traffic-dependent price for each form of access, as well as alternative price structures on request, including a bulk price whereby an access buyer is offered a defined amount of traffic for the entire or parts of its customer base.

Furthermore, access to national roaming must be offered on price terms that do not exceed the price terms in the standard MVNO agreement. Since the access buyer’s traffic in its own network for one or several services exceeds 50 per cent of the total traffic, Telenor is permitted to increase the access price for the relevant service (services) by up to 20 per cent . Prices for MVNO access must pass a portfolio-based margin squeeze test, while access for service providers must pass a gross margin test for a selection of Telenor's products.

8.1 General

Consultation comments

Telenor first of all submits that draft decisions represent a significant change in policy and that this requires investigation and anchoring in the Storting (Parliament). Telenor believes that the draft does not balance the objectives for Norwegian mobile regulation and requests that instrument use, consequences and proportionality be investigated before the decision is made. Telenor's assessment is that the regulation probably undermines the objectives of increased network competition and the establishment of three nationwide networks. Telenor furthermore believes that the draft contains several other, extensive changes compared to the notification, such as Chapter 7.1.8, and that Telenor is prevented from raising this in the additional consultation.

Telia supports the request from Telenor that Nkom must initiate an impact assessment of the amended draft, and that the notification to ESA should be put on hold.

Telia believes that the obligations that are now proposed seem to entail a radical change in the entire wholesale market, so that the terms of competition are also at stake. This applies particularly in relation to national roaming. The regulation also removes the incentives for further investment in a geographically fully-fledged and nationwide mobile network. This seems to deliver a heavy blow to the political objective of further rollout of a third nationwide mobile network.

Ice believes that the regulation must in a better way balance the consideration that the third network should be able to invest in further development and be competitive, against the short-term competition considerations. The need for the rapid and effective development of the third network must be the key objective, as this contributes to ensuring efficient and sustainable competition on a permanent basis. The present proposal, combined with a delayed decision, does not do this.

Ice does not find any need for further impact assessment, as Nkom's case processing has been transparent and all of the operators have had good access to make themselves heard.

Ice argues that a linear pricing model should only apply to national roaming. If linear prices are maintained for MVNOs and service providers, it should, however, be investigated how this can affect the path towards sustainable competition, but without this delaying the decision.

When it comes to Telenor and Telia's concern that new regulation will lead to reduced competition and reduced investments, Ice cannot see how competition on similar terms or the establishment of a third mobile network could have such consequences. On the contrary, strengthened competition from the third network will stimulate further development.

Atea and **Saga Mobil** write in their comments on the consultation responses that regulation of this sector cannot be said to have functioned satisfactorily, since few (if any) access buyers have managed to create profitable operations. It is thus positive that in this instance Nkom's draft regulation leads both duopolists to react relatively sharply, which is a strong signal that this time the regulation can have a certain effect (if the draft is maintained).

eRate believes that the instruments must be tightened further with regard to access for service providers and MVNOs than is apparent from the notification. The company also comments that the network owners concur in their attempts to limit competition by saying that additional obligations in the regulation are not to apply to MVNO and service provider access. eRate is of the opinion that a third mobile network will not create the necessary competition for access buyers or wholesale pricing in the upcoming regulation period. It is eRate that actually contributes to increased competition for end users through its facilitation for other mobile operators.

Fjordkraft points out in its comments on the consultation responses that more than three providers of mobile services are required in order to achieve innovation and lower prices for customers. Today's regulation does not make it possible for Fjordkraft to operate with positive results for mobile customers.

The Norwegian Competition Authority agrees that the regulation should facilitate competition in the retail market, while giving access buyers pricing flexibility and the opportunity to design their own products. The Authority furthermore believes that the regulation should be designed so that access buyers have incentives to invest in their own infrastructure. It would be unfortunate, for example, if a service provider were to face better conditions than an MVNO, thereby reducing its investment incentives. The Competition Authority supports Nkom in the view that it is important to facilitate long-term infrastructure-based competition, including the facilitation of further development of the third mobile network. It is also desirable that increased infrastructure-based competition in the future will make advance regulation of the market unnecessary.

Nkom's assessment

As a consequence of the supplementary consultation, Nkom has made a detailed assessment of the obligations related to price structure and price regulation that were notified in the draft decision published on 13 December 2019. Nkom has made a few adjustments to the decision related to the price structure requirement, in order to further strengthen the facilitation of the establishment of a third network in line with the overall purpose of the regulation. The changes are presented in Chapter 8.2 below. The changes address the concerns of Telenor, Telia and Ice as to whether the regulation facilitates three networks.

At the same time, the service provider access obligations notified on 31 May 2019 are maintained. Nkom thus believes that the decision also takes account of the consideration of service competition within the coming regulation period.

Nkom sees no need for further investigation and anchoring beyond ordinary consultation procedures under Section 9-3 of the Electronic Communications Act.

8.2 Price structure

Consultation comments

Telenor primarily believes that the requirement for linear variable prices must be removed, and secondly, that the requirement must be limited to access to national roaming. In addition, under any circumstances, clear requirements concerning the development and time period must be set.

Telenor states that variable prices in wholesale agreements concerning access to mobile networks are not customary and points out that wholesale agreements in Sweden, Denmark and Finland normally consist of [redacted] Telenor believes that Nkom's reference to the EU rules on international roaming is not relevant because this concerns another market, and that the rules set a maximum price for international roaming, but do not make any requirements concerning price structure.

Telenor claims that requirements to offer a variable linear price structure will have major consequences for the market and network development. Telenor believes that the requirement is not justified and that the consequences this may have for the market and competition have not been assessed.

Telenor contends that a requirement for a linear price, combined with a requirement for a positive gross margin per product, entails that the product with the highest data amount included will constitute the maximum level of the linear access price for data. Telenor has calculated that the access price for data would have to be reduced by [redacted]. Telenor believes that data in small and medium-sized subscriptions will be significantly more affordable, while the large subscriptions will have a significant increase in the access price for data. The incentives to offer subscriptions with large data packages will be limited for Telenor and access buyers in Telenor's network. This entails that the end-user customers will face offers that are less adapted to their demand, especially when data usage increases. This may also entail that Telenor's incentives to launch price plans such as “5G unlimited” will be removed. [redacted]

Telenor believes that the regulation undermines the development of at least three competitive networks. It will probably be more profitable for a national roamer to buy traffic rather than itself building a nationwide network. Telenor furthermore believes that the notified regulation favours operators that do not invest in their own infrastructure. A significant reduction of the access price for data will entail an increase in the competitiveness of those who do not build a network, at the expense of those who do build networks, which will have negative consequences for the incentives to invest in networks.

Telenor also believes that there is no basis to impose orders for linear variable prices. In concrete terms, Telenor states that the competition problems identified by Nkom do not legitimise such a requirement. Furthermore, it is not explained how a price structure can impede establishment or have an exclusionary effect. Telenor also contends that Nkom has not substantiated that a fixed charge per customer access or a non-linear variable price can negatively affect the incentives to invest in networks, and that this has nothing to do with non-discrimination and that it is irrelevant for MVNO and the service provider.

Furthermore, Telenor believes that regulation of the price structure cannot be anchored in non-discrimination and that it is not explained how prices that are not linear variable prices entail discrimination between internal and external activities. It is unclear to Telenor whether the price structure that is offered must be the same as faced by Telenor's retail activity, and that in such case this must exclude that Telenor is obliged to have different price structures. Telenor believes that Nkom must investigate the consequences of orders to offer bulk prices and other price structures that are requested in addition to linear prices, and also the effect that bulk prices will have for the incentives to invest in the network.

Telia believes that the requirement of linear prices will entail that the price structure in the wholesale market no longer reflects the price structure in the retail market, where data prices decline with increases in volume. For wholesale customers that are able to attract customer groups with low consumption, the change will probably be beneficial. For wholesale customers with customer groups with high consumption, on the other hand, it will be a disadvantage that they will no longer be able to achieve price benefits from high consumption. Linear prices are assumed to favour operators with national roaming agreements in particular, and will thereby entail both price discrimination and distortion of competition in their favour. While operators with service provider and MVNO agreements will be exposed to both the advantage of a lower unit price in the event of low use and the disadvantage of needing to have the same unit price for high use, an operator with national roaming and a well-developed network will be far more exposed to the advantage of a lower unit price due to low use of the host network, since most consumption takes place in an operator’s own network.

Telia also comments on Ice’s consultation response that non-linear prices will lead to significantly higher average costs for Ice than for an MVNO or service provider. Telia believes that when Ice quickly achieves full coverage in its coverage area, they will in reality become like an MVNO or service provider where they do not have their own coverage, and Ice could to a great extent be exposed to the same non-linear price structure as other wholesale customers.

Ice believes that the order to offer linear prices must only apply to national roaming. The reason is the significant difference in demand and financial conditions for an operator with high production in its own network, and for an operator that buys all traffic from Telenor. An operator that buys all traffic has no own costs related to its own radio network and buys all traffic from Telenor. Even with non-linear prices and high prices for low consumption, an operator without its own network will still end up with relatively low average prices. The operators Chilimobil and Fjordkraft have both expressed how they expect profitability in the course of 2020, with a market share of approximately 1.5 per cent and approximately 2 per cent, respectively, well below the proposed reference operator at 3 per cent. Today's terms already enable the operators to make innovative offers. Linear prices for an operator without its own network will give them an opportunity to price subscription plans with low volumes at very low prices, without assuming the risk of developing their own national network, and without considering the significant fixed costs incurred for operation of the network. This could distort competition and, in the longer term, reduce network owners' investment appetite and capability.

For an operator like Ice, with a high share of own traffic, the current price model will, however, entail that the average price of access increases rapidly with an increasing share of own traffic. The savings from moving traffic to their own network will be reduced by the fact that the cheapest megabytes are moved "home", while the significantly higher prices for the volume still purchased via national roaming will still have to be paid. In addition, the network's operation entails significant investments and fixed operating costs; and these are costs that operators without their own network do not have. Ice believes that a linear price for national roaming at the level of the average price paid by an MVNO for an average user will prevent the company from being penalised for developing the network. In addition, linear prices for national roaming will improve Ice's opportunity to offer wholesale access in competition with Telenor and Telia.

eRate, Fjordkraft, Phonect and **Saga mobil** believe that the degressive price model based on each user's monthly data consumption is an impediment to competition and functions as a hidden fixed charge. The companies refer to how much of the competition in the market is still for smaller data amounts. It is not logical that the first MB (per SIM) are more expensive to produce than the last MB. In addition, the companies remark that the wholesale price per MB is significantly lower in the EU (roaming) than in Norway (for the first few hundred MB).

eRate, Fjordkraft, Phonect and Saga Mobil believe that it is high time that Nkom imposes the requirement that the traffic-dependent price must be linear, in order to ensure greater flexibility and the possibility of independent pricing in the retail market. **Hudya** also expresses how a fixed price per MSISDN should not be permitted.

All of the aforementioned access buyers are positive towards a bulk price. Hudya comments that this model is most suitable for major established operators. For small operators with uneven growth, the model will probably not be suitable. Other access buyers express how it must be possible to combine different bulk volumes with linear prices in order to create innovation and competition in the market. This applies to the purchase of data, voice minutes, SMS and MMS, and it must be possible to purchase the various packages separately. In its comments on the consultation responses, Fjordkraft writes that access to combine bulk purchases with volume-based linear prices will make it possible to increase the competition for all types of products, including those with high data consumption. This is supported by Atea and Saga Mobil, who believe that linear prices in combination with bulk purchases will lead to increased competition for all data packages, as well as the potential for increased innovation among such providers. These requirements must not be omitted for service providers and MVNOs, as this will reduce competition.

Nkom's assessment

Nkom has made a thorough assessment of the requirement for an access agreement with a linear price for all forms of access that was presented in the draft decision of 13 December 2019. In hindsight, Nkom is of the view that this obligation, viewed in the context of the price regulation for service providers and MVNOs, may have unintended consequences. Linear access prices, in combination with the requirement for a positive gross margin per product for service provider access, will entail that products in the retail market with large data quotas will require disproportionately large changes in the access price, in order to pass the gross margin test. The requirement concerning the relative price level between forms of access entails that this also has an effect on access prices for MVNOs and national roaming. Telenor's incentive to offer large data packages in the retail market might thereby be impaired, which is not desirable.

As stated above, changes in the access price would make it possible to offer small data packages on very favourable terms. This might lead to disproportional price pressure from MVNOs and service providers in the retail market for products with small data quotas. As referred to in Chapter 7.6 of the decision, there is already price pressure from service providers in this market segment. Significantly amplified price pressure might be detrimental to the third network's competitiveness. Ice is in the process of developing a nationwide network, and during the coming period it will be particularly important to facilitate growth and incentives for further development.

Another objective, over time, is for the third network to offer wholesale access. Disproportionally large price reductions for service provider and MVNO access during the development phase might have a negative effect on Ice's incentives to offer wholesale access.

With regard to national roaming, Nkom believes, however, that it is important to maintain a requirement of a linear price for access. This requirement would prevent regulated operators from offering degressive price models with high data prices for low traffic volumes per SIM as the only price model. Price models whereby the access price declines with increasing volume per subscription/customer could weaken incentives to develop networks and transfer traffic to own networks. This is related to how the average cost per traffic unit (minutes, SMS or MB) purchased by the host network will increase as the purchase of national roaming declines, because larger shares of traffic are produced in their own network. In order to ensure that the benefits of network development can be achieved on an ongoing basis, Nkom maintains that the traffic-dependent (variable) price of national roaming must be linear, in the sense that the price cannot vary according to the traffic volume per subscription.

With regard to price structures for access in other countries, it seems clear that in markets with well-functioning competition, more than one price structure for access to mobile networks is offered. In response to enquiries from Nkom, several supervisory authorities have confirmed that linear prices per subscription, non-linear variable prices per subscription, fixed fee per subscription and bulk prices are offered. Different price structures give access buyers the flexibility to have different price models in the retail market. On this basis, Nkom considers it reasonable to require Telenor to meet reasonable requests for alternative price structures and to maintain this in the decision. Offering alternative price structures may not lead to a higher access cost for the requester than the reference offer. Telenor will have the burden of proof that the price level requirement is fulfilled, based on the access buyer's own pattern of use. Nkom finds that an obligation to meet reasonable requests for alternative price structures, and the guidance given in the decision in connection with bulk price agreements, will create more flexibility and could alleviate the challenges for MVNOs and service providers related to the current price structure.

Furthermore, on the basis of input from Telenor, Nkom has assessed the basis for imposing price structure requirements pursuant to Section 4-7 of the Electronic Communications Act concerning Non-discrimination. In its decision of 9 March 2018, the Norwegian Ministry of Transport and Communications assessed that Section 4-7 of the Electronic Communications Act gives authorisation to require Telenor to offer access agreements with a price structure that does not have an entry-deterring or excluding effect. Nkom also notes that there is uncertainty concerning which price structures are entry-deterring or excluding, since the effect of a given price structure might differ in various different retail markets and segments. In the decision, Nkom has thereby imposed specific requirements of the price structure as part of the price obligations in Chapter 7.5, pursuant to Section 4-9 of the Electronic Communications Act
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8.3 Price regulation for national roaming

Consultation comments

Telenor states that the requirement that prices for national roaming should not be higher than the prices offered to an MVNO entails that the prices for national roaming must be the same or lower than for an operator with a 3-per-cent market share in either the private or business market, or 2.3 or 0.7 per cent of the total market. In Telenor's view, this entails regulation that promotes the establishment of ineffective operators.

In its comments on the consultation responses, Telenor writes that Telenor's costs per base station are not relevant on determining the price level for national roaming. The regulation must support that Ice chooses to invest rather than leasing access, and in this perspective Ice's alternative cost must be assumed. Telenor believes that geographically differentiated prices are vital and necessary to ensure the development of the third network. Without this, the competition for quality (coverage) might be dampened because network owners can request access from Telenor at a linear variable price, thereby offering the best coverage without investing in the latest unprofitable base stations. In Telenor's view, the regulation of the structure and price level of national roaming must be subject to a time limit, as a maximum of 2-3 years.

Telia believes that the price regulation for national roaming is random and not very predictable. Telia believes that the limit of 50 per cent traffic in own network for the first price increase has been set too high, and that flat price development at between 50 and 90 per cent own production, with the possibility of then being able to increase the price to an unknown level, cannot function as a guide in a market with substantial investments. A progressive increase in the prices from a lower level of own production would be a more logical and proportional regulation, since this will correspond to the actual costs of development in more sparsely populated and expensive areas. It is nonetheless necessary to clarify the framework that will apply after 90 per cent is achieved, and without special permission from Nkom being necessary.

Wholesale prices that are too low for operators with a national roaming agreement will undermine the incentives to build a nationwide network, since it may be more profitable to roam at a low wholesale price. Telia believes that the price regulation facilitates that operators with a national roaming agreement can make adjustment for limited development when the investment costs of building their own nationwide network exceed the alternative costs of roaming at variable unit costs all the way down to the marginal cost of the host network.

Telia refers to how in the third quarter of 2019 Ice had 90 per cent population coverage and points out that the draft decision lacks an assessment of when a request for national roaming can no longer be considered reasonable.

Telia is seriously concerned that with the amended proposal for regulation of market 15 Nkom is defeating its own purpose and that Ice will end up as a permanent national roamer, at the expense of Telia and Telenor. If the development of which an outline can be seen in Nkom's updated notification is allowed to continue, this will also affect the established network operators' appetite for investment and might thereby undermine the robustness of the mobile networks in rural areas.

Telia claims that Ice has refrained from participating in several joint projects that are of benefit to society and that safeguard mobile development in Norway, and that this behaviour increases concerns that Ice will remain a perpetual national roamer. In its comments on the consultation responses, Telia believes that there should be an opening to limit the national roaming of the infrastructure that has been created through joint socio-economic projects, to the financing of which the roamer has refrained from making any contribution. Telia believes that such an approach is supported in Article 76 of EECC.

Telia states in its comments on Ice's consultation response that Telia also has to build coverage that is not profitable, and without price increases, roaming in less profitable parts of Telia's network will not provide incentives for Ice to build nationwide networks. Telia believes that Ice's approach is that roaming at low variable prices is far more profitable than building its own infrastructure. Telia does not believe there can be any doubt that the remaining roaming traffic over time will be in sparsely populated areas. Telia points out that Ice must build many base stations, and that voice traffic via 4G in Ice's network will increase significantly in the course of a short period of time.

Ice sees no reason to allow Telenor to increase the prices for national roaming, as the regulation assumes, with the associated risk of delayed development due to weakened competitiveness for national roamers. If the authorities require further development obligations, such agreements should be entered into directly with national roamers, or the regulation must be designed more specifically for this, for example through development obligations, as was the case in connection with last year's frequency auction for 700 MHz/2.1 GHz.

Ice considers that it may be appropriate for the prices for national roaming to be based on prices for MVNO access, but in such case Nkom must require Telenor to give a discount for national roamers compared to the MVNO prices, as a consequence of how a national roamer has "double" costs, while an MVNO does not have such costs.

Nor can Ice see that this is a reasonable cost argument for increasing the access prices, with increasing self-coverage, and generally points out that:

- The additional costs of providing access for national roaming will be lower in sparsely populated areas because capacity that has already been developed has lower capacity

utilisation, so that roaming access is thereby less of a burden on existing capacity and requires capacity expansion.
In its comments, Ice refers to how it is apparent from Telenor's results for 2019 that the company has solid margins, billion-kroner profits and continued free capacity in sparsely populated areas that can be sold in order to further increase profitability.

- It is incorrect that with a high own share of traffic, roaming traffic mainly occurs in sparsely populated areas. Ice refers to how [redacted]. Instead, escalation of the access price should be reserved for geographical areas or base stations where it can be documented that Telenor's operating costs are significantly higher than average.
- For quite some time, Telenor has received financial support from state, county and municipal authorities for the development of both fibre and mobile infrastructure in less profitable areas.
- Increased costs for increased own coverage contribute to reducing the competitiveness of the third network and weaken the development incentives. Nkom also assumes an uncertain situation in which further tightening of the access prices for own coverage exceeding 90 per cent appears probable, although the level is unknown. At the same time, a premium on access prices will lead to increased revenue for the main competitor, Telenor.
- Telenor does not operate with differentiated prices for placement in masts in rural areas or less profitable areas.

Concerning claims that Ice does not participate in projects that are of benefit to society, Ice comments that the company has already invested in large projects that provide own coverage in a number of railway tunnels, road tunnels, airports and other hubs. Ice has led the development of several facilities and facilitated that the other operators can become connected, and invested in a number of indoor facilities, and is also connected to existing facilities such as the metro project in Oslo, Gardermoen, Media City Bergen, the Romerike Tunnel and the Skaugum Tunnel.

Nkom's assessment

The level of the access price for national roaming will be based on the test for an MVNO with a 3-per-cent market share in the private or business market. This entails a significant reduction from the level signalled in the notification of decision in May 2019, in which Nkom proposed margin squeeze testing for national roaming with the reference operator at a 20-per-cent market share. Nkom takes the view, however, that the MVNO test provides a good starting point for testing of a new operator who buys national roaming without having developed their own coverage to any particular degree. It is also important to prevent that Telenor might be able to discriminate between external access buyers by offering buyers at the lower levels of the investment ladder, i.e. providers that can be considered to represent less of a long-term competitive threat, better terms than other access buyers. Such a situation is unfortunate in terms of investment incentives and may adversely affect the goal of sustainable competition. This also supports that the MVNO test with the relevant effectiveness requirements is an appropriate starting point for the price regulation of national roaming.

Ice is now in the final stage of its network development and close to achieving approximate full population coverage, despite high barriers to entry that are related to establishing a nationwide network in Norway; see the market analysis. The authorities have a strong focus on the development of the third network now being successful and resulting in infrastructure-based competition. This entails that the regulation must be designed to ensure that, to the greatest possible extent, gains from the development can be achieved during the development, and that the third network is able to compete in the retail market on terms that, to the greatest possible extent, give them equal terms of competition to other operators who do not face the same investment requirement. In the light of this, as well as the consultation input received, Nkom has reassessed the principle of geographically differentiated prices. Instead, Nkom will incentivise the third network for further development by setting a time limit for the price controls comprising this regulatory periode. Reference is made to Chapter 7.5.5 of the decision. This time limit addresses the concern of Telenor and Telia that the regulation does not provide incentives for further development, and the lack of predictability related to geographically differentiated prices.

Telia also comments that the decision lacks an assessment of when a request can no longer be considered reasonable. Nkom assumes that a request for national roaming will be reasonable within the decision period. The need for regulation will then be assessed in the light of a new market analysis.

8.4 Price regulation for service provider access

Consultation comments

Telenor states that a gross margin test per calling plan will often be stricter than a full margin squeeze test for a portfolio, which indicates that Nkom's regulation gives the best conditions for the access form that is lowest on the investment ladder. Telenor believes that by setting requirements for the relative price level between access forms, Nkom imposes even stricter regulation of Telenor, rather than correcting the specific price obligations which give this result.

Ice believes that the gross margin test at product level for service providers, combined with a linear access price for MVNOs and service providers, and that mobile broadband is tested together with mobile subscriptions, could create price structures that make it less attractive to take further risks on investing in their own infrastructure. [[redacted]

[redacted]

Ice believes that service providers offer a full range of subscriptions in the private and business markets, respectively, and that these providers can both tactically and strategically choose to differentiate profitability per price plan, in the same way as an MVNO (and an MNO). Ice therefore does not see any reason for margin squeeze tests for service providers to deviate from tests for MVNO access. Margin squeeze tests for service provider access should therefore be performed as full margin squeeze tests, and not for each individual product.

Hudya, Phonect and **Saga Mobil** believe that the access prices should be based on "real cost structure"/cost-oriented prices. Hudya writes that Telenor should be required to calculate real costs for the individual components that service providers and MVNOs purchase from the network part and be required to offer all services at cost-based prices, both internally and externally. Hudya believes that this principle is easier to follow up and cannot see that it would impose a greater administrative burden on Telenor, or reduce incentives to develop the third network.

eRate, Fjordkraft, Phonect and **Saga Mobil** support Nkom's arrangement of the margin squeeze tests whereby MVNO access must pass a full margin squeeze test and be tested collectively for the private market and collectively for the business markets, while service provider access must fulfil the requirement of a positive gross margin for each product included in the test. This cannot be broken up into segments, groupings, or similar, but must be at the product/service level. It is the marketed portfolios that must be tested, in order to reveal the true competition picture. eRate and Saga Mobil also point out that Telenor's business pricing plans, which include a given amount of data, can be supplemented with cheap add-on packages. This means that testing is not against correct "packages" of data. In the tests, there should therefore be testing against given levels (virtual price plans) of the real price and volume, including add-on packages.

eRate, Fjordkraft, Phonect and Saga Mobil still believe that a margin requirement must be set so that service providers are able to cover their costs such as SAC, staffing, system operation, customer centre, administration, operation, IT systems, and market and sales costs. eRate believes that a requirement of a 15 per cent gross margin for service providers must be set. Fjordkraft, Phonect and Saga mobil argue for a product margin of at least 15-20 per cent. **Hudya** believes that a gross margin requirement should be at least 20 per cent.

eRate, Fjordkraft, Phonect and Saga Mobil also believe that the price regulation must make a sharper distinction between MVNO access and service provider access, so that the measures must be tightened the most for MVNO. eRate believes that MVNO must have a gross margin of 30 per cent to be sustainable.

With regard to the correction of prices in connection with margin squeeze, the four companies believe that regulated operators must correct the prices, repay the balance and also penalties in the form of fines, in order to create incentives to observe the rules of the game. It is important that Nkom decides which prices Telenor must reduce and that Nkom assumes a weighting of traffic and traffic development as the basis.

Nkom's assessment

Concerning Ice's comments with regard to linear price in combination with gross margin tests, Nkom refers to the conclusion not to maintain linear price requirements for other forms of access than national roaming, see Chapter 8.2 above.

The decision maintains that gross margin tests should be performed per product. This will facilitate the opportunity for service providers to become established in niches of the private or business market.

With regard to the outcome of a gross margin test per product, it is correct, as Telenor states, that in some cases the result may be that access prices will need to be corrected as a consequence of the company not passing the gross margin test, even if the full margin squeeze test is passed. The requirement of a relative price level between the various access forms will prevent service provider access, which is an access form further down the investment ladder, from becoming more attractive than MVNO access. This might entail that Telenor has to change its prices for MVNO access based on test results from the gross margin test for service provider access. Nkom has taken this into account as part of the proportionality assessment in Chapter 7.6 of the decision and believes that such a requirement is necessary in order to alleviate identified competition problems, and to support the purpose of the regulation.

Regarding input related to margin requirements, Nkom refers to the assessments set out in Chapter 7.6.1.2 above. Nkom sees no reason to change the assessments and maintains the requirement of a positive gross margin.

In the supplementary consultation, some service providers argued for the requirement of cost-oriented prices, rather than price regulation based on margin squeeze prohibition. Nkom refers to Chapter 7.5.2 of the decision in which the selection of method is assessed. Nkom does not see any basis to change the conclusion.

With regard to the correction of access prices if margin squeeze is discovered, Nkom maintains that Telenor may choose to correct the access price for either voice, SMS or mobile data, or a combination of the prices for these three services. Nkom also maintains that reimbursement will be assessed specifically on any request from an eligible party. To provide a greater degree of predictability for both Telenor and access buyers, Nkom has, however, specified the method of assessing the size of a reimbursement requirement in Chapter 7.5.8.4 of the decision.

Nkom has not found any basis for further changes in the price regulation for service provider access, beyond the changes applying to price structure requirements. Reference is made to Chapter 8.2 above.

8.5 Price regulation for co-location

Consultation comments

Ice believes that if capacity expansions covered by construction contributions entail vacant capacity, Telenor or other parties that take the expanded capacity into use must cover a relative share of the construction contribution and repay this to the party by which it was financed.

Telenor believes that here Ice is again arguing for cost accounts per site and believes that aggregated cost accounts are the most appropriate. However, Telenor believes that in a few cases it would be prudent to divide investments among operators that benefit from a capacity expansion. This applies to larger, investment-intensive capacity increases such as development in tunnels and increased power supply (power cable) capacity, whereby Telia and Telenor, for example, take on large investments, and where a third operator often enters later without construction subsidies, by waiting until the capacity expansion has taken place.

To avoid this, it is beneficial that all operators “go halves” on a major expansion such as a new power cable to a mountaintop station. This might also be relevant going forward in the case of 5G development and modernisation requiring mast replacements and capacity expansions.

Nkom’s assessment

Nkom has assessed the question of whether operators that gain space at locations previously financed by construction contributions should cover part of the construction contribution and reimburse this to the operator that in the first instance paid the construction contribution. Nkom finds that it is not appropriate to impose any such solution for reimbursement between operators pursuant to the regulation. In 2018 and 2019, Nkom obtained information from Telenor concerning the number of requests for co-location and the use of construction contributions. The information shows that construction contributions are used to a small extent. [Exempt from public disclosure: Around 3 per cent of the placements granted in 2019 entailed construction contributions below NOK 500,000, while an offer with construction contributions exceeding NOK 500,000 was only given in one case.] The construction contribution requirements are approximately evenly distributed between the applicants, so that no operators are disproportionately burdened by construction contributions.

Furthermore, the construction contribution principles seek to remedy the conditions named by Ice, in that Telenor must in principle take the simplest and most reasonable measure to release space. This might, for example, concern removing equipment that is not in use, or moving equipment to make room for more cabinets. It must be assumed to be less often the case that one operator has to pay for more demanding measures, such as mast replacement. In such cases, it will be up to the entity making the request to assess alternative solutions. If Telenor chooses measures that are also of benefit to Telenor themselves, the construction contribution must be reduced equivalently. This can be seen from the specific obligations in Chapter 7.5.13.

9 Assessment of the overall effect of specific obligations

Assessment and conclusion in the decision notification

Nkom is of the view that the notified remedies effectively address identified competition problems. The main principles from the decision in 2016 are continued, but are defined more closely in certain areas, with closer follow-up in some cases. Nkom believes that this is necessary in the context of achieving the objective of sustainable competition.
Nkom also concludes that the consequences of the decision are in accordance with the aim of facilitating infrastructure competition, while access buyers have sufficiently good terms to operate their activities and create competition at service level. Nkom cannot see that there would be a risk of significant unintended consequences of the use of remedies in this decision.

Consultation comments

In **Telenor's** view, the overall effect of the notified changes will make the regulation less effective in achieving the goal of a third mobile network. The notified remedies are also not proportional to the stated competition problems. According to Telenor, the use of the remedies does not contribute to achieving socio-economic efficiency gains as prescribed in the objectives clause of the Electronic Communications Act.

Obligations which reduce the socio-economic surplus associated with the production of mobile services may not be imposed under the framework of the Electronic Communications Act. Telenor believes the proposed price control is of such a nature. Protecting competitors rather than promoting efficiency will generally lead to consumers being affected negatively through higher prices, less product innovation and narrower product offerings. In isolated terms, measures to protect operators could lead to higher prices.

According to Oslo Economics, the regulation weakens Ice’s incentives to quickly establish an independent competitive network. The regulation of other access types reduces the advantage of one’s own network in the competition for end users, making it more difficult for Ice to establish a wholesale offering that is based on its own network and possible purchase of national roaming.

According to Oslo Economics, the regulation undermines Telenor’s and other network operators’ incentives to invest in upgrading the mobile network, including up to 5G. This is because the access regulation limits the opportunities for profitability at wholesale level, so that the return on the investments is artificially low. One important reason that the operators invest in networks is that higher quality gives an advantage in the competition for retail customers and any wholesale customers. By investing, the network owners can secure more customers and possibly higher revenue per customer. Competition will, however, lead to a situation where, if a network owner invests, the others will be forced to follow suit.

If regulation strengthens the access buyers’ competitiveness, but also weakens the MNOs’ incentives to compete, it will be uncertain whether the regulation has the required effect on the competition in the market. Competitive effects for MNOs should thus be assessed carefully.

According to Oslo Economics, the notified tightening of the regulation of access prices can contribute to weakening the incentives for price competition. The regulation, for which the basis is that wholesale buyers at Telenor are not to be subject to margin squeeze, gives the smallest possible difference between wholesale prices and retail prices. On any margin squeeze, Telenor must reduce its wholesale prices in order to be able to reduce its retail prices. Telenor will then have to weigh the gains from increased sales (on a price reduction) against reduced wholesale revenue and lower margins on sales to end users. The impact on demand of reduced retail prices might be weakened if lower wholesale prices could give access buyers incentives to reduce their prices. It is therefore not rational for Telenor to reduce prices in the retail market. Weakened incentives to compete can thus result in the prices in the retail market stabilising at a higher level than would otherwise be the case.

According to Oslo Economics, the notified tightening of the regulation of access prices might also contribute to weakening the incentives to compete in terms of product development. Selling at a loss early in a product’s life cycle can be a part of a profit-maximising strategy, and thereby also of significance to the incentives to develop services. According to Oslo Economics, the access control as it is designed could restrict Telenor's opportunities to introduce services at a low price and thereby weaken Telenor’s incentives to drive product and service development. Furthermore, Oslo Economics believes that Telenor’s competitive advantage from product development is reduced in view of the requirement to immediately facilitate that access buyers can copy the product.

Several of the proposed obligations are also very unclear and it is not stated what their content is, or by which method Nkom will control compliance. For several obligations, Telenor understands that Nkom will not consider the content of the obligations until the time of enforcement. This regulation does not give any predictability for either Telenor or access buyers, nor does it contribute to competition or efficient use of resources.

Nkom's assessment

Nkom believes the regulation in the decision facilitates sustainable competition in line with the purpose of the Electronic Communications Act and is thus suitable to achieve the socio-economic efficiency gains that effective competition must support. Nkom's regulation is not intended to protect specific operators, but to protect the competition. Telenor has not substantiated that the regulation reduces the economic benefits.

When it comes to the regulation's incentives for the establishment of a third network, Nkom has adjusted the decision related to the price regulation for national roaming to even more clearly facilitate three competitive networks. National roaming should be offered at a linear variable price, unlike other types of access where the regulation does not require linear pricing. In addition, Nkom has removed the possibility of geographically differentiated prices that were notified earlier. At the same time, the price regulation for national roaming has been limited to this regulatory period to strengthen the incentives for effective roll-out. In Nkom's view, a short-term perspective on the price regulation for national roaming will also be positive for the host networks investment incentives. Reference is also made to the assessments in Chapter 7.2.2 above.

When it comes to incentives for investment in established networks, Nkom refers to how the mobile networks in Norway are among the best in the world, despite the regulation that has been imposed. Telenor uses the results of the Ookla Speedtest to show that the company has the fastest network in the world[32]. Investment figures obtained for Nkom's electronic communications statistics also show that the providers keep investments in mobile networks at a consistently high level. Nkom's experience therefore does not show that the regulation has weakened Telenor's or other network owners' investment incentives.

Nkom partly agrees with Oslo Economics' assessments of the effects on the price competition in the market. The price control in the decision, in the form of a requirement of positive margin squeeze tests, gives the smallest difference between wholesale price and retail price. Alternatively, a cost-orientation requirement must be expected to result in lower wholesale

[32] https://www.telenor.no/privat/dekning/ookla.jsp

prices. The ban on margin squeeze is thus a less intrusive form of regulation. However, Nkom assumes that the gains in the retail market will be realized over time as a result of increased infrastructure-based competition

The fact that Telenor's opportunities to introduce services at a low price or at a loss is limited by regulation is also a natural consequence of being designated as an undertaking with significant market power. The regulation will discipline the pricing of a dominant operator and limit the opportunity to obtain additional first-mover benefits. Telenor's position indicates that the company can compete to offer new services without also subjecting access buyers to margin squeeze.

In conclusion, Nkom does not agree that the obligations are unclear. The obligations are primarily a continuation of the obligations in Nkom's decision of 1 July 2016. Obligations that have been amended or clarified are clearly set out in the decision.