NON-BINDING ENGLISH TRANSLATION

OPTA and NMa

Price Squeeze Guidelines

Our refs.: OPTA/EGM/2000/200494, NMa /2201/12

28 February 2001

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I. Introduction

1. The Commission of the Independent Post and Telecommunications Authority (hereinafter referred to as "the Commission") and the Director-General of the Netherlands Competition Authority (hereinafter referred to as "d-g/NMa ") hereby publish a set of Guidelines for the assessment of the lower limit of end user rates on the strength of Sections 16, 17, 35 and 36 of the ONP Leased Lines and Telephone Communications Decree (hereinafter referred to as "BOHT") and Section 24 of the Netherlands Competition Act (hereinafter referred to as "the NC Act"), respectively.

2. The said Guidelines have been prepared on the strength of Section 81 of Book 4 of the Netherlands General Administrative Law Act, with due observance of such powers as BOHT confers upon the Commission and the NC Act confers upon the d-g/NMa , respectively. The Commission and the d-g/NMa are to apply the said Guidelines by way of policy regulations as defined in Section 3(4) of Book 1 of the General Administrative Law Act. The Guidelines in question aim to provide an insight, in the light of the above, into the mechanism for assessment of the lower limit of end user rates charged by a provider having significant market power in the fixed public telephone communication sector and the leased line sector, and a business commanding economic power in the relevant market, respectively.

3. On 9 October 2000 the Commission published a consultation document entitled "Price Squeeze Consultation Document", the d-g/NMa having responded at an earlier stage to the draft Price Squeeze Consultation Document. The market players having submitted their comments on the Consultation Document, a hearing was held on 8 November 2000 as part of the consultation process. In preparing the present Guidelines the Commission and the d-g/NMa have involved the market players' response to the Consultation Document.

4. Increasingly fierce competition may bring pressure to bear on the end user rates charged for services by the provider having significant market power or by a vertically integrated business having economic power in the network market (hereinafter referred to as "economic power"). As the gap between the end user rates and the interconnection rates narrows, a price squeeze (hereinafter also referred to as "constrictive pricing") can be the result. A price squeeze scenario applies in the event of the margin between the sourcing and selling rates applied by the provider having significant market power, or by a business having economic power being reduced to such a level as to prohibit (efficient) competitors from marketing their services on a profitable basis. This is an obstacle to the development of lasting competition in the longer term. It is the intention of the Commission and the d-

g/NMa to impose a lower limit on the end user rates charged by the provider having significant market power or a business having such economic power.

II. Legal Entrenchment

5. The present Guidelines provide for general regulations regarding the application of such powers resting with the Commission and the d-g/NMa as set out hereinafter in respect of the level of rates charged by a telecommunication company for its services, and the consequences in terms of the competitive position of other providers.

6. As far as the NMa is concerned, the application of the Guidelines is confined to businesses having economic power as defined in Section 24 of the NC Act; as for OPTA, it is confined to businesses which the Commission has designated on the strength of Section 6(4) of the Netherlands Telecommunications Act as having the status of market player having significant power.

Powers Resting with the d-g NMa

7. Section 24 of the NC Act authorises the d-g/NMa to take action against businesses which abuse their economic power. Section 1 sub (i) of the NC Act provides the following definition of economic power: "A position which one or more businesses command which enables them to prevent the preservation of genuine competition in (part of) the Dutch market by enabling them to a significant degree to act independently of their competitors, suppliers and customers or of end users." The definitions as per Section 24 of the NC Act are interpreted in the light of the policy practice of the European Commission and the jurisprudence of the Court of Justice and the Court of the First Instance in this sphere. An investigation into the existence of economic power requires the demarcation of the relevant market. In this investigation the d-g/NMa has *inter alia* based himself on the Commission's notification regarding the definition of the relevant market in terms of collective competitive law.[1]

Powers Resting with the Commission

8. Sections 16, 17, 35 and 36 of BOHT require the Commission to subject end user rates charged by a provider having significant power in the leased line market and the fixed public telephone communication market, to an assessment in terms of cost orientation.

Sections 16 and 24 of BOHT: Cost Oriented Rate Requirement

9. In order to safeguard the setting of cost oriented rates, Section 16(1) and Section 35(2) BOHT respectively require a designated provider having significant market power to apply a cost and revenue allocation system (hereinafter referred to as "the System"). Sections 16(4) and 35(4) BOHT require a provider having significant market power to submit to the Commission, each year in May, the outcome of the application of the System to the previous calendar year. The Commission uses the outcome in assessing whether the rates are in fact cost oriented, i.e. that they comply with a certain ratio relative to the costs.

Sections 17 and 36 BOHT: Premature Price Changes

10. Sections 17 and 36 BOHT require any provider having significant market power to submit any prices changes for the scrutiny of the Commission. The Commission is required to vet proposed rates against the cost orientation criterion. In so far as the Commission feels that the proposed rates are not cost oriented, it will notify the designated provider having significant market power accordingly within three weeks of receipt of the proposal, advising the provider that it will receive the Commission's relevant instruction within one month of the date of notification, which the provider with market power is under the obligation to adhere to.

11. In the past, the supervision of the rates charged by the designated provider having market power predominantly stressed the prevention of excessively high rates. The price cap system which was introduced in 1999 was aimed at preventing excessively high pricing. However, as a result of intensifying competition, the Commission now finds itself increasingly having to focus on preventing excessively low rates in this service market. The present Guidelines address the question as to when the cost orientation requirement is not complied with in the lower end user rate limit range of a provider having significant market power due to excessively low margins in the service market.

Reconciliation between Supervisory Bodies

12. The reconciliation procedure between the Commission and the d-g/NMa has been provided for in the Collaborative Protocol (Netherlands Government Gazette 2000, no. 249), which was drawn up in he wake of Section 18(3) of the Netherlands Telecommunication Act (the latter hereinafter referred to as "the NT Act"). The central plank is that the Commission, in its capacity as sector-specific supervisory body, will take the lead in the context of assessment in areas in which it has assessment authorisation. In so far as the NT Act denies

[1] Official Journal of the European Communities 1997, C 372/5.

the Commission authorisation, there is always the possibility for the d-g/NMa to entertain price squeeze complaints on the strength of the NC Act.

III. Detailed Elaboration

NMa; NC Act

13. Section 24 of the NC Act prohibits abuse of economic power by businesses having such economic power. A potential form of abuse is implied in the imposition of unfair and/or discriminatory sourcing or selling prices.[2] The present Guidelines address the question as to when a scenario of abuse due to unfairly low prices applies.

Relevant Market

14. As argued hereinbefore, an investigation into potential abuse of economic power requires the demarcation of the relevant market. Two products need not be the same or "virtually identical" in order for them to be qualified as substitutes from a competitive angle and thus, to be regarded as forming part of one and the same market.[3] Put simply, products A and B will be regarded as substitutes for one another or as forming part of one and the same market in so far as a lasting price increase for product A in the amount of 5 to 10 percent will inspire such number of users of product A to switch to product B as to result in the sales decline for product A to make this price increase unprofitable for a fictitious monopolist which markets product A.

15. At least two types of market are to be taken into consideration as regards the telecommunication sector: that of the services provided to end users, and that of the access to such facilities as are necessary in order to provide such end users with such services (including the physical network). It is necessary in each specific case to define the relevant access and service markets (see Access Notification).[4]

[2] Lower House 24 707, no. 3, Explanatory Memorandum, page 71.
[3] See Notification by the European Commission concerning the definition of the relevant market for collective competition law, Official Journal of the European Communities 1997, C 372/5.
[4] Notification concerning the application of competition regulations to agreements involving access in the telecommunication sector, Official Journal of the European Communities 1998, 233/2 (hereinafter referred to as "Access Notification"), ground for decision 44.

16. Speech and data communication have to date been regarded as separate relevant product markets in the context of service supply to end users using the fixed network.[5]

Vertical Integration

17. In the telecommunication sector, some telecommunication companies are set up along vertical integration lines, in that they own a telecommunication network on the one hand while supplying services in competition to other businesses on the other. In so far as a vertically integrated business has economic power in the network market, it must essentially not treat its own service supplying divisions differently than it does the other service suppliers operating in the relevant market (the "non-discrimination clause").

18. Previous judgements by the Court of Justice of the European Communities bear out that the fact of the abuse impacting on another relevant market than that in which the power is commanded is not incompatible with the application of Article 82 EC.[6] In so far as use is made in support of a service of a variety of network components with the statutory restrictions having been removed, competition will remain dependent upon pricing and on the conditions of access to each of the network components. It is easier to engage in competition with some network components than with others: For example, it is difficult to compete at local loop level whereas it is relatively less challenging to compete in terms of communication between regional telephone exchanges.

19. A business which intends to offer fixed telephone services in a market requires access to consumers – access which is virtually entirely in the hands of KPN. The market power which this control of access offers qualifies as the most relevant factor in making the assessment on the strength of Section 24 of the NC Act.[7] Access to the local loop is generally an essential precondition for the emergence of competitive service markets and for curbing the market power of the dominant network operator.[8] It follows that a position of economic power at local loop level lends itself for abuse in adjacent (service) markets.

[5] Case IV/JV.7, Telia-Sonera-Lithuanian Telecommunications, date: 14 August 1998, ground for decision 17.
[6] See e.g. cases 6 and 7/73, ICI, Jur. 1974, page 223, and case 311/84, CBEM/CLT and IPB, Jur. 1985, page 3261.
[7] See Access Notification, ground for decision 63.
[8] Notification by the Commission concerning the assessment, in the light of the competitive regulations, of the marketing of telecommunication as well as cable television networks by a single operator and the abolition of cable television capacity via telecommunication networks, Official Journal of the European Communities 1998, C 71/4, ground for decision 14.

Unfairly Low Prices

20. The imposition of unfair sourcing or selling prices represents a potential form of abuse of economic power in the relevant market. Prices qualify as unfairly low insofar as they are not in reasonable proportion to the economic value of the performance in question.[9] This is so in any event insofar as a service is marketed at less than cost for a protracted period of time, with the aim of discouraging access or pushing a competitor out of the market ("predatory pricing"). In general there will be a question of abuse insofar as the price is lower than the average variable cost[10] or than the average aggregate cost as well as forming part of a competition-curbing plan (the "AKZO test").[11] However, the mere application of this rule fails to do justice to economic reality in network industries,[12] as the cost structures in these sectors tend to be considerably different than those in other sectors due to the fact that the aggregate cost is significantly higher. This explains how, for example, the price which is set at the variable cost of a service may turn out significantly lower than the price to be charged by an operator in order to recoup the aggregate cost of offering the service in question.

21. In its Access Notification the European Commission has elaborated upon the "predatory pricing" standard with the aim of preventing price squeeze. Such price squeeze applies in so far as the dominant business's proprietary downstream division is not able to achieve a profitable operation on the basis of such prices as its competitors' upstream division requires. Where appropriate, the price squeeze can also be established by proving that the margin between the access price charged by competitors in the downstream market (including the proprietary divisions) on the one hand and the price charged by the network operator in the downstream market on the other is not sufficiently large as to enable a reasonably efficient service provider in this market to realise an acceptable profit.[13]

[9] Case 298/83, CICCE, Jur. 1985, page 1105, ground for decision 22.
[10] Case C-62/86, AKZO, Jur. 1991, I-3359, and Access Notification, ground for decision 111.
[11] Case C-333/95, Tetra Pak, Jur. 1996, I-5951, and Access Notification, ground for decision 112.
[12] Access Notification, ground for decision 110.
[13] Reference is *inter alia* made in this context to the Decision by the European Commission dated 18 July 1988, Brown Napier/British Sugar, Official Journal of the European Communities L 284/15.

Discriminatory Prices

22. Another potential form of abuse by a business having economic power in the relevant market is the imposition by such business of discriminatory sourcing or selling prices. Such discrimination could result in competition being curbed in the downstream market (insofar as no alternative to the network is available to third parties) in which other businesses also operate or are seeking to start operating. The assessment as to whether discrimination applies involved scrutiny of the prices charged by the business to its own downstream operating division. Businesses are furthermore banned from wielding effectively discriminatory prices by granting selective discount which are not based on cost. In its Access Notification the European Commission has worked this out in more detail for the telecommunication sector.[14]

OPTA; NT Act

Cost Orientation

23. Parties which the Commission has designated on the strength of Section 6(4) of the NT Act as market players having significant power are among other things under the obligation to wield cost oriented end user rates. This means that the rates are required to be in reasonable proportion to the costs, i.e. they should not be excessively high or excessively low relative to the costs. Unfairly low and/or discriminatory prices do not comply with prevailing telecommunication regulations. In order to satisfy the cost orientation criterion, the difference between the user rates charged by the provider having significant market power on the one hand and the interconnection rates charged to competitors offering similar end user services is required to be such as to enable a reasonably efficient service provider in this market to realise an acceptable profit (also see section 21 hereinbefore).

IV. Price Squeeze Test

Scope

24. The Commission and the d-g/NMa are of the opinion that no price squeeze is allowed to arise in any of the end user services offered by any provider having significant market power or any business having economic power. The Commission and the d-g/NMa will therefore asses the lower limit of the end user rates of any provider having significant market power or any business having economic power in terms of cost orientation at the level of the various rate components per relevant market using a price squeeze test. The latter

correlates the end user rates applied by the provider having significant market power or business having economic power[15] to the cost of the provider having significant market power or business having economic power. These costs are determined on the basis of such costs as the business in question would incur if it were to source the relevant services in its own network. This approach ensures that new rates and/or changes in the rates for services by a provider having significant market power or business having economic power impact on the relevant market in a non-discriminatory manner.

Set Up of Price Squeeze Test

25. The Commission and the d-g NMa will base their assessment of end user services of a provider having significant market power or business having economic power on the published generic end user rates of the provider having significant market power or the business having economic power in question.

26. In so far as the provider having significant market power or business having economic power, in addition to the published generic end user rates also applies discounts which reduce the margin between sourcing and selling prices, the Commission and the d-g NMa will adjust the end user rate of the relevant end user service accordingly.

27. As regards the fixed public telephone service, the Commission and the d-g NMa will base themselves in terms of sourcing costs on such costs as the provider having significant market power or business having economic power would incur in the network market if it were to source network capacity from itself, on payment of interconnection rates. These rates will, where appropriate, be adjusted to take account of specific costs not having been caused by the provider having significant market power or business having economic power itself. End user rates are not adjusted for discounts anchored in cost savings (e.g. Total Line), as the efficient provider for its part should also be able to realise such cost benefits, which qualify for direct reimbursement to the customer in the form of an end user rate discount.

28. In calculating the retail increment (this being an increment on top of the network costs enabling efficient providers to realise an acceptable profit) the Commission and the dg-NMa will base themselves on the costs of an efficient alternative provider. The Commission and the d-g NMa will apply the retail charges of the provider having significant market power or business having economic power in estimating the costs of an efficient provider. The level

[14] Grounds for decision 120 et seq.

of the retail increment is calculated by expressing the absolute retail charges as a percentage of the network costs of the provider in question.

29. In the opinion of the d-g NMa and the Commission, the above approach lends itself for application to any service or market governed by the aforementioned general rules. The Appendices to the present Guidelines contain detailed elaboration of a specific price squeeze test for several services/markets. In the event of there being a reason, in response to disputes and/or complaints by market players, for example, to assume that other services/markets than those set out in the Appendices are affected by a price squeeze, the Commission and the d-g NMa could, on the basis of the above points of departure, convert the price squeeze test into a service/market specific formula to enable the performance of a squeeze test, to be added to the Appendices.

V. Effective Date

30. The effective date of the present Guidelines has been set as the day following the date of publication of their adoption in the Netherlands Government Gazette.

The Commission of the Independent Post and Telecommunications Authority	*The Director-General of the Netherlands Competition Authority*
M.S. Mulder, Secretary (Acting)	*A.W. Kist*

[15] In specific cases the calculations will be based on a specific portion of the end user rate, viz. the end user rate less a "terminating" discount.

General Notes to Appendices:

- These Appendices form part of the NMa and OPTA's Price Squeeze Test Guidelines (OPTA/EGM/2000/20094, NMa2201/12). The Appendices translate the general guidelines into specific tests to be applied in assessing the emergence and existence of price squeeze in a variety of markets. As the demarcation of the relevant market and the figures used may undergo change as time progresses, the Appendices will have to be updated in line with any such changes, and will in any event be revised on an annual basis. Not every individual change in rates will be accompanied by a revision of the Appendices. The price squeeze test is invariably carried out using such interconnection and end user rates as prevail or are scheduled for implementation at such moment in time.

- Such Appendices as are available at this particular juncture give a product or service specific indication of the relevant market on the basis of which the test is elaborated. Such market demarcation is required to be made per product or service, and is temporarily defined. On application of Section 36 of BOHT, OPTA will reject any rate proposal by KPN in respect of any of the products/services already described in the Appendices which fails to satisfy the squeeze test, following which OPTA and NMa will conduct an investigation with the aim of examining/confirming the indicative market demarcation.

- Providers incur retail charges in connection with marketing, sales, billing and overheads, for example, which are added to the sourcing costs. Efficient providers should be able to recoup such retail charges augmented by a profit margin from the end user rate. Based on the assumption that an alternative operator should be able to operate with at least similar efficiency as KPN, the relevant retail increment percentage will be calculated on the basis of KPN's actual retail charges. The level of the retail increment is calculated by expressing the absolute retail charges as a percentage of KPN's network costs.

- The tests applied in the Appendices are aimed at establishing rather than resolving price squeeze. Squeeze solutions could possibly be found in reducing the sourcing rates (interconnection rates) or increasing the end user rates.

Appendix I Price Squeeze Test for Biba traffic

Relevant Market

Speech and data communication have to date been regarded as separate relevant product markets in the context of service supply to end users using the fixed network.[16]

On application to speech traffic, the following links can be discerned in the KPN network:[17]

- The "local loop" in the KPN network, i.e. the network between the caller and the NRC;
- KPN's regional network, i.e. the (connective) network between the local host (NRC) and the first tandem switch (EVKC);
- KPN's national network, i.e. the network between the EVKCs mutually.

Speech traffic is not necessarily dealt with using the KPN network: the caller can route its speech services along an alternative network using an alternative (e.g. cable) connection. Speech traffic can furthermore be linked from the KPN network at a number of levels, for example at NRC or EVKCEVKC level. As the structure of an alternative network can differ from that of the KPN network, the demarcation of the relevant market may impact on this (for example, it is difficult in a cable scenario to distinguish between the connecting line and the regional network. The connecting network and the regional network could be regarded as a single market in so far as this does not affect the way in which the case is dealt with). As the vast majority of speech traffic is dealt with using the KPN network, the latter's structure is of crucial importance when demarcating the relevant market, as other telephone companies have no choice but to adhere to the structure of the KPN network to a significant degree in the set-up of their networks.

Based on such deliberations as set out hereinbefore, an indicative classification into relevant markets is provided. A distinction is always made in describing these markets between the KPN network, a cable company's network and the network of other telephone companies (the latter hereinafter referred to as "Telcos"). This distinction matters for the following reason. KPN owns the connecting network having been installed in support of speech traffic. Although cable companies are able to provide their consumers with direct links (alternative connecting network), they have yet to achieve national cover with their networks. Telcos do not at present have a connecting grid, although they do provide for national cover from a certain level onwards (usually regionally).

[16] Case IV/JV.7, Telia-Sonera-Lithuanian Telecommunications, date: 14 August 1998, ground for decision 17.
[17] The geographical market will henceforth be left out of consideration; this will usually be the Dutch market for speech and data traffic. Although specific items could have regional relevance, this is not relevant to the issue at hand in so far as there is no question of regional rate differentiation.

The indicative classification into relevant markets is as follows:

- The connecting network (i.e. the network between the caller and the NRC within the KPN network plus the local network of cable companies insofar as the latter lends itself to speech traffic);[18]
- The regional network (i.e. the network between the NRC and the EVKCEVKC within the KPN network plus the regional network of Telcos rolled out at the level of KPN's NRCs plus the regional portion of the cable companies' network);
- The national network (i.e. the network between KPN's EVKCEVKCs plus the network between the Telcos' regional exchanges).

A fictitious monopolist could profitably increase the price with respect to each of the above network components.

In the present situation, virtually every telephone call is set up using a KPN connecting line, following which virtually all calls are routed via the KPN regional network. It is only from this point onwards that a significant proportion of calls are routed via third-party networks or leased lines.

Use is made in the "intra-regional communication" speech service (hereinafter referred to as "Biba") of the local network and often also of the regional network. As a vertically integrated business which has dominance in these market(s) and which offers competitive services using its proprietary network, KPN must therefore be subjected to a price squeeze test so as to ascertain whether the cost orientation requirement is being satisfied and/or to prevent abuse, whichever may be the case.

Price Squeeze Test

End User Rates

Biba end user rates for "BelBasis" subscription as at 1 January 2001

	Peak	Off-peak	Weekend/Night-time
Initial unit [a)]	8.4	8.4	8.4
Communication rate [b)]	4.72	2.56	1.72

[a)] Rates x NLG 0.01 per call (exclusive of value-added tax)

[18] Case Comp/M.1679, France Telecom – STI – SRD, date: 21 October 1999, ground for decision 0: "*Local loop telephone services. This covers both the market for provision of local telephone networks (provision of infrastructure) and the market for related services allowing final users access to the telephone network when*

[b] *Rates x NLG 0.01 per minute (exclusive of value-added tax)*

Discounts:

As regards Biba, only the "VoordeelNummers" (Discount Number) scheme (hereinafter referred to as "VDN") has relevance in terms of discounts. The following discount percentages currently apply:

Scheme	Maximum	Adjusted
VDN	10%	5%

The adjustment to the maximum achievable discount is based on the fact that not all users of a discount scheme receive the maximum discount as not all numbers called will qualify as "discount" numbers. The adjustment is an approximation of the effective discount per user category which is actually applied by KPN, viz. the maximum discount per discount scheme divided by two.

On this basis the discount percentage for Biba end user rates works out at 5 percent.

Sourcing costs:

Relevant interconnection rates July 2000 – July 2001

	Set-up [a]			Conveyance [b]		
	Peak	Off-peak	WNT [c]	Peak	Off-peak	WNT
National terminating (NT)	3.0	2.1	N/A	2.7	1.5	N/A
Regional terminating (RT)	2.9	2.7	2.0	2.2	1.2	1.0
Local terminating (LT)	1.7	1.6	1.2	1.3	0.7	0.6
Regional originating (RO)	3.2	3.0	2.1	2.4	1.3	1.1
Local originating (LO)	1.9	1.7	1.3	1.4	0.8	0.7

[a] *Rates x NLG 0.01 per call (exclusive of value-added tax)*

[b] *Rates a NLG 0.01 per minute (exclusive of value-added tax)*

[c] *WNT (weekend/night-time)*

Of the Biba calls, x are routed via a local exchange while y are routed via an EVKC and z, via two EVKCs. Based on information having been made available by KPN, the routing proportion for the overall Biba traffic has been set at 0.22, 0.63 and 0.15, respectively. In order to calculate the sourcing costs, the call origination rates are applied to the upward part of the call while the call termination rates are applied to the downward part of the call.

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they want to originate calls and for telephone companies to terminate calls to their intended recipients." Ditto in case IV/M.1553, France Telecom/EDITEL/LINCE, date: 30 July 1999.

The sourcing costs for Biba traffic are calculated as follows:

Call set-up costs:

$x*[LO_{CSU}+LT_{CSU}]+y*[RO_{CSU}+RT_{CSU}]+z*[RO_{CSU}+NT_{CSU}]$

Conveyance costs:[19]

$x*[LO_{CO}+LT_{CO}]+y*[RO_{CO}+RT_{CO}]+z*[RO_{CO}+NT_{CO}]$

Retail increment

An average retail increment rather than a service-specific increment is applied to fixed telephone communication services reported in ONP speech including Biba. In view of the significant shared costs, service-specific allocation would be complicated and thus, less than useful.

Stage 1: Aggregate cost for ONP speech services diminished by costs of sourcing traffic from third parties

Stage 2: Calculate network costs

Stage 3: Calculate retail charges (sum total of stage 1 - sum total of stage 2)

Stage 4: Calculate retail increment percentage (sum total of stage 3 ÷ sum total of stage 2).

The retail increment for ONP speech services and thus, for Biba, has been set at 23% based on information having been furnished by KPN.

Squeeze test

The squeeze test is as follows:

End user rate adjusted to take account of discount ≥ interconnection rate adjusted to take account of retail charges.

Set-up:

$Esetup*k \geq (x*[LO_{CSU}+LT_{CSU}]+y*[RO_{CSU}+RT_{CSU}]+z*[RO_{CSU}+NT_{CSU}])*C$

Traffic:

[19] As a single Biba rate applies, this formula currently applies to speech and Internet taffic alike. Internet traffic has no [on-net?] downward portion for which an interconnect equivalent can be designated. However, the terminating fees are required to be paid from the Biba rates. The downward [on-net?] portion is seen as

$$Etraffic*k \geq (x*[LO_{CO}+LT_{CO}]+[y*[RO_{CO}+RT_{CO}]+[z*[RO_{CO}+NT_{CO}])*C$$

Provided both tests are passed, it is established that there is no question of price squeeze.

The following symbols are used in the formulae:

x, y and z: proportions of Biba calls dealt with locally, regionally, and nationally (x+y+z=1)

LO = Local Originating per minute

RO = Regional Originating per minute

LT = Local Terminating per minute

RT = Regional Terminating per minute

NT = National Terminating per minute

CSU = Call Set Up (set-up rate)

CO = Conveyance (traffic rate)

k = (100 – Biba discount percentage)/100

C = 1 + retail increment/100

Esetup = End user set-up rate (call set up) for peak, off-peak and weekend

Etraffic = End user conveyance rate for peak, off-peak and weekend

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an approximation of the terminating fee. Here too the formula is subject to change (e.g. rate differentiation between speech and Internet).

Appendix II Buba traffic

Relevant market

Speech and data communication have to date been regarded as separate relevant product markets in the context of service supply to end users using the fixed network.[20]

On application to speech traffic, the following links can be discerned in the KPN network:[21]

- The "local loop" in the KPN network, i.e. the network between the caller and the NRC;
- KPN's regional network, i.e. the (connective) network between the NRC and the first tandem switch (EVKC);
- KPN's national network, i.e. the network between the EVKCs mutually.

Speech traffic is not necessarily dealt with using the KPN network: the caller can route its speech services along an alternative network using an alternative (e.g. cable) connection. Speech traffic can furthermore be linked from the KPN network at a number of levels, for example at NRC or EVKC level. As the structure of an alternative network can differ from that of the KPN network, the demarcation of the relevant market may impact on this (as it is for example difficult in a cable scenario to distinguish between the connecting line and the regional network, the connecting network and the regional network could be regarded as a single market insofar as this does not affect the way in which the case is dealt with). As the vast majority of speech traffic is dealt with using the KPN network, the latter's structure is of crucial importance when demarcating the relevant market, as other telephone companies have no choice but to adhere to the structure of the KPN network to a significant degree in the set-up of their networks.

Based on such deliberations as set out hereinbefore, an indicative classification into relevant markets is provided. A distinction is always made in describing these markets between the KPN network, a cable company's network and the network of other telephone companies (the latter hereinafter referred to as "Telcos"). This distinction matters for the following reason. KPN owns the connecting network having been installed in support of speech traffic. Although cable companies are able to provide their consumers with direct links (alternative connecting network), they have yet to achieve national cover with their networks. Telcos do not at present have a connecting grid, although they do provide for national cover from a certain level onwards (usually regionally).

[20] Case IV/JV.7, Telia-Sonera-Lithuanian Telecommunications, date: 14 August 1998, ground for decision 17.
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The indicative classification into relevant markets is as follows:

- The connecting network (i.e. the network between the caller and the NRC within the KPN network plus the local network of cable companies insofar as the latter lends itself to speech traffic);[22]
- The regional network (i.e. the network between the NRC and the EVKC within the KPN network plus the regional network of Telcos rolled out at the level of KPN's NRCs plus the regional portion of the cable companies' network);
- The national network (i.e. the network between KPN's EVKCs plus the network between the Telcos' regional exchanges).

A fictitious monopolist could profitably increase the price with respect to each of the above network components.

In the present situation, virtually every telephone call is set up using a KPN connecting line, following which virtually all calls are routed via the KPN regional network. It is only from this point onwards that a significant proportion of calls are routed via third-party networks or leased lines.

Use is made in the "extra-regional communication" speech service (hereinafter referred to as "Buba") of the local network, the regional network and the national network. As a vertically integrated business which has dominance in these market(s) and which offers competitive services using its proprietary network, KPN must therefore be subjected to a price squeeze test so as to ascertain whether the cost orientation requirement is being satisfied and/or to prevent abuse, whichever the case may be.

Price Squeeze Test

End User Rates

Buba end user rates for "BelBasis" subscription as at 1 January 2001

	Peak	Off-peak
Initial unit [a)]	8.4	8.4
Traffic rate [b)]	8.0	3.7

[a)] Rates x NLG 0.01 per call (exclusive of value-added tax)

[b)] Rates x NLG 0.01 per minute (exclusive of value-added tax)

[22] Case Comp/M.1679, France Telecom – STI – SRD, date: 21 October 1999, ground for decision 0: "*Local loop telephone services. This covers both the market for provision of local telephone networks (provision of infrastructure) and the market for related services allowing final users access to the telephone network when*

Discounts:

The current Buba discount percentages are as follows for the discount schemes and adjustment percentages having relevance for the squeeze test:

Scheme	Maximum	Adjusted
VDN	10%	5%
Fexibel	9%	4.5%
World Line	9%	4.5%

The adjustment to the maximum achievable discount is based on the fact that not all users of a discount scheme receive the maximum discount as either discount schemes are graduated or not all numbers called will qualify as "discount" numbers. The adjustment is an approximation of the effective discount per user category which is actually applied by KPN, viz. the maximum discount per discount scheme (VDN, Flexibel, or World Line) divided by two. As VDN and World Line/Flexibel are virtually uncomplimentary (in that end users will not use both discount schemes) the actual maximum discount percentage to be achieved by end users making use of a discount scheme will consist of the top rate as per the above chart.

The adjustment is max (VDN, Flexibel, World Line).

On this basis the discount percentage for Buba end user rates works out at 5 percent.

Sourcing costs:

Relevant interconnection rates July 2000 – July 2001

	Set-up [a)]			Conveyance [b)]		
	Peak	Off-peak	WNT [c)]	Peak	Off-peak	WNT
National terminating (NT)	3.0	2.1	N/A	2.7	1.5	N/A
Regional terminating (RT)	2.9	2.7	2.0	2.2	1.2	1.0
Regional originating (RO)	3.2	3.0	2.1	2.4	1.3	1.1

[a)] *Rates x NLG 0.01 per call (exclusive of value-added tax)*

[b)] *Rates a NLG 0.01 per minute (exclusive of value-added tax)*

[c)] *WNT (weekend/night-time)*

Of the Buba calls, w are routed via a single EVKC and (1-w), via two EVKCs. Based on information made available by KPN, the routing proportion for the overall Buba traffic has been set at 0.14 and

they want to originate calls and for telephone companies to terminate calls to their intended recipients." Ditto in case IV/M.1553, France Telecom/EDITEL/LINCE, date: 30 July 1999.

0.86, respectively. In order to calculate the sourcing costs, the call origination rates are applied to the upward part of the call while the call termination rates are applied to the downward part of the call.

The sourcing costs for Buba traffic are calculated as follows:

Call set-up costs:

$w*[RO_{CSU}+RT_{CSU}]+(1-w)*[RO_{CSU}+NT_{CSU}]$

Conveyance costs:

$w*[RO_{CO}+RT_{CO}]+(1-w)*[RO_{CO}+NT_{CO}]$

Retail increment

An average retail increment rather than a service-specific increment is applied to fixed telephone communication services reported in ONP speak including Buba. In view of the significant shared costs, service-specific allocation would be complicated and thus, less than useful.

Stage 1: Aggregate cost for ONP speech services diminished by costs of sourcing traffic from third parties

Stage 2: Calculate network costs

Stage 3: Calculate retail charges (sum total of stage 1 - sum total of stage 2)

Stage 4: Calculate retail increment percentage (sum total of stage 3 ÷ sum total of stage 2).

The retail increment for ONP speech services and thus, for Buba, has been set at 23% based on information having been furnished by KPN.

Squeeze test

The squeeze test is as follows:

End user rate adjusted to take account of discount ≥ interconnection rate adjusted to take account of retail charges.

Set-up:

$Esetup*k \geq (w*[RO_{CSU}+RT_{CSU}]+(1-w)*[RO_{CSU}+NT_{CSU}])*C$

Traffic:

$Etraffic*k \geq (w*[RO_{CO}+RT_{CO}]+[(1-w)*[RO_{CO}+NT_{CO}])*C$

Provided both tests are passed, it is established that there is no question of price squeeze.

The following symbols are used in the formulae:

W and (1-w): proportions of Buba calls dealt with regionally and nationally, respectively

RO = Regional Originating per minute

RT = Regional Terminating per minute

NT = National Terminating per minute

CSU = Call Set Up (set-up rate)

CO = Conveyance (traffic rate)

k = (100 – Buba discount percentage)/100

C = 1 + retail increment/100

Esetup = End user set-up rate (call set up) for peak, off-peak and weekend

Etraffic = End user conveyance rate for peak, off-peak and weekend

Appendix III Inbound Internet traffic

Relevant market

Speech and data communication have to date been regarded as separate relevant product markets in the context of service supply to end users using the fixed network.[23]

End users achieve a point of connection with the Internet via an Internet Service Provider (ISP). There are two basic ways of achieving the connection: via the public switched telephone network (dial-up access), or via a fixed connection along a leased line (dedicated access).[24] And then there are new technologies (under development) using traditional copper cables, such as fast modems, ADSL, and HDSL. Cable modems have also been developed to enable use to be made of the cable network to gain Internet access. Finally, work is underway developing wireless broadband technology using satellites or fixed terrestrial stations, and DPL products enabling data signals to be transmitted across power cables at frequencies in excess of 1 MHz.[25]

The question has arisen in the provision of Internet services as to whether a distinction should be made in demarcating the relevant market between narrowband and broadband content and thus, between narrowband network access and broadband network access. This is currently being investigated by NMa and OPTA jointly (hereinafter referrer to as "the Joint Investigation").

The vast majority of Internet traffic is currently routed along the speech infrastructure. This can imply that with respect to network access to the Internet, KPN, as a vertically integrated business, occupies the same position in the local network and the regional network as it does in speech traffic. Here too the situation would for the time being appear to be that KPN, as a vertically integrated business, is dominant in this (these) market(s) and should therefore be subjected to a prize squeeze test in the service market so as to ascertain whether the cost orientation requirement is being satisfied and/or to avoid abuse, whichever the case may be. Once the joint investigation has been finalised, this Appendix will be revised in so far as the Investigation warrants this.

KPN revenue

KPN's set-up and conveyance revenue is determined by KPN's end user rates less payments to the recipient provider.

[23] Case IV/JV.7, Telia-Sonera-Lithuanian Telecommunications, date: 14 August 1998, ground for decision 17.
[24] Case IV/M.1069, WorldCom/MCI, date: 3 March 1998, ground for decision 16.

Discount

N/A.

Costs:

Interconnection rates July 2000 – July 2001:

	Set-up [a)]			Conveyance [b)]		
	Peak	Off-peak	WNT [c)]	Peak	Off-peak	WNT
06760 Internet Connect Regional (IC)	3.2	3.0	2.1	2.4	1.3	1.1

[a)] *Rates x NLG 0.01 per call (exclusive of value-added tax)*

[b)] *Rates x NLG 0.01 per minute (exclusive of value-added tax)*

[c)] *WNT (weekend/night-time)*

The sum total of set-up and conveyance costs for the 06760 collecting model is made up as follows:

Set-up costs:

IC_{CSU}

Conveyance costs:

IC_{CO} +PK

Gate costs

As outlined in the OPTA announcement dated 22 December 2000, the Commission applies a gate rate in the amount of NLG 0.02 per minute.

Retail increment

An average retail increment rather than a service-specific increment is applied to fixed telephone communication services reported in ONP speech including inbound Internet calls. In view of the significant shared costs, service-specific allocation would be complicated and thus, less than useful.

Stage 1: Aggregate cost for ONP speech services diminished by costs of sourcing traffic from third parties

Stage 2: Calculate network costs

Stage 3: Calculate retail charges (sum total of stage 1 - sum total of stage 2)

[25] Case IV/M.1113, Nortel/NORWEB, date: 18 March 1998, ground for decision 22.

Stage 4: Calculate retail increment percentage (sum total of stage 3 ÷ sum total of stage 2).

The retail increment for ONP speech services and thus, for 06760 collecting traffic, has been set at 23% based on information having been furnished by KPN.

Squeeze test

The squeeze test is as follows:

KPN revenue ≥ interconnection rate adjusted to take account of retail charges.

Set-up:

REVENUEsetup ≥ IC_{CSU}*C

Conveyance:

REVENUEconveyance ≥ [IC_{CO}+PK]*C

Provided both tests are passed, it is established that there is no question of price squeeze.

The following symbols are used in the formulae:

IC = 06760 Internet Connect Regional

CSU = Call Set Up (set-up rate)

CO = Conveyance (traffic rate)

C = 1 + retail increment/100

REVENUEsetup = end-user set-up rate

REVENUEconveyance = revenue for KPN (traffic)

PK = gate costs per minute

Appendix IV Fixed-mobile traffic

Relevant market

Speech and data communication have to date been regarded as separate relevant product markets in the context of service supply to end users using the fixed network.[26]

On application to speech traffic, the following links can be discerned in the KPN network:[27]

- The "local loop" in the KPN network, i.e. the network between the caller and the NRC;
- KPN's regional network, i.e. the (connective) network between the NRC and the first tandem switch (EVKC);
- KPN's national network, i.e. the network between the EVKCs mutually.

Speech traffic is not necessarily dealt with using the KPN network: the caller can route their speech services along an alternative network using an alternative (e.g. cable) connection. Speech traffic can furthermore be linked from the KPN network at a number of levels, for example at NRC or EVKC level. As the structure of an alternative network can differ from that of the KPN network, the demarcation of the relevant market may impact on this (as, for example, it is difficult in a cable scenario to distinguish between the connecting line and the regional network, the connecting network and the regional network could be regarded as a single market insofar as this does not affect the way in which the case is dealt with). As the vast majority of speech traffic is dealt with using the KPN network, the latter's structure is of crucial importance when demarcating the relevant market, as other telephone companies have no choice but to adhere to the structure of the KPN network to a significant degree in the set-up of their networks.

Based on such deliberations as set out hereinbefore, an indicative classification into relevant markets is provided. A distinction is always made in describing these markets between the KPN network, a cable company's network and the network of other telephone companies (the latter hereinafter referred to as "Telcos"). This distinction matters for the following reason. KPN owns the connecting network having been installed in support of speech traffic. Although cable companies are able to provide their consumers with direct links (alternative connecting network), they have yet to achieve national cover with their networks. Telcos do not at present have a connecting grid, although they do provide for national cover from a certain level onwards (usually regionally).

[26] Case IV/JV.7, Telia-Sonera-Lithuanian Telecommunications, date: 14 August 1998, ground for decision 17.
[27] The geographical market will henceforth be left out of consideration; this will usually be the Dutch market for speech and data traffic. Although specific items could have regional relevance, this is not relevant to the issue at hand in so far as there is no question of regional rate differentiation.

The indicative classification into relevant markets is as follows:

- The connecting network (i.e. the network between the caller and the NRC within the KPN network plus the local network of cable companies in so far as the latter lends itself for speech traffic);[28]
- The regional network (i.e. the network between the NRC and the EVKC within the KPN network plus the regional network of Telcos rolled out at the level of KPN's NRCs plus the regional portion of the cable companies' network);
- The national network (i.e. the network between KPN's EVKCs plus the network between the Telcos' regional exchanges).

A fictitious monopolist could profitably increase the price with respect to each of the above network components.

In the present situation, virtually every telephone call is set up using a KPN connecting line, following which virtually all calls are routed via the KPN regional network. It is only from this point onwards that a significant proportion of calls are routed via third-party networks or leased lines.

Use is made in the fixed-mobile speech service of the local network and often also of the regional network. As a vertically integrated business which has dominance in these market(s) and which offers competitive services using its proprietary network, KPN must therefore be subjected to a price squeeze test so as to ascertain whether the cost orientation requirement is being satisfied and/or to prevent abuse, whichever the case may be.

Price Squeeze Test

The end user rate for fixed to mobile traffic consists partly of the cost of the network capacity at KPN and partly of the cost for terminating a call at the mobile operator. Such elements of the call which have nothing to do with KPN's proprietary costs but which rather ensue from the network capacity which KPN sources with third parties are left out of consideration in the price squeeze test. In assessing the rate charged for fixed to mobile traffic, the revenue generated by KPN in respect of fixed to mobile calls is compared with such costs as KPN would incur if it had to source the relevant network capacity from itself at wholesale rates, augmented by an increment in respect of retail specific charges.

[28] Case Comp/M.1679, France Telecom – STI – SRD, date: 21 October 1999, ground for decision 0: "*Local loop telephone services. This covers both the market for provision of local telephone networks (provision of infrastructure) and the market for related services allowing final users access to the telephone network when*

KPN revenue

KPN's revenue is calculated by deducting the payments to the recipient provider from KPN's end user rates. KPN's revenue consists of the set-up rate augmented by a variable fee.

Discounts:

The current fixed-to-mobile discount percentages are as follows for the discount schemes and adjustment percentages having relevance for the squeeze test:

Scheme	Maximum	Adjusted
VDN	< 2%	<1%
Fexibel	2%	1%
World Line	2%	1%

The adjustment to the maximum achievable discount is based on the fact that not all users of a discount scheme receive the maximum discount as either discount schemes are graduated or not all numbers called will qualify as "discount" numbers. The adjustment is an approximation of the effective discount per user category which is actually applied by KPN, viz. the maximum discount per discount scheme (VDN, Flexibel, or World Line) divided by two. As VDN and World Line/Flexibel are virtually uncomplimentary (in that end users will not use both discount schemes) the actual maximum discount percentage to be achieved by end users making use of a discount scheme will consist of the top rate as per the above chart.

The adjustment is max (VDN, Flexibel, World Line).

On this basis the discount percentage for fixed to mobile end user rates works out at 1 percent. This discount percentage applies to the entire fixed to mobile end user rate, i.e. including the terminating fee to the operator, as KPN has made the level of the discount it grants dependent on this external factor.

Sourcing costs:

Relevant interconnection rates July 2000 – July 2001

	Set-up [a)]			Conveyance [b)]		
	Peak	Off-peak	WNT [c)]	Peak	Off-peak	WNT
National terminating (NT)	3.2	2.2	N/A	2.9	1.6	N/A
Regional terminating (RO)	3.2	3.0	2.2	2.4	1.3	1.1

they want to originate calls and for telephone companies to terminate calls to their intended recipients." Ditto in case IV/M.1553, France Telecom/EDITEL/LINCE, date: 30 July 1999.

[a] *Rates x NLG 0.01 per call (exclusive of value-added tax)*

[b] *Rates a NLG 0.01 per minute (exclusive of value-added tax)*

[c] *WNT (weekend/night-time)*

Costs:

The costs for fixed to mobile traffic depend on the roll-out of the mobile provider. The sum total of set-up and conveyance costs is calculated as follows:

Set-up costs:

$a*RO_{CSU}+(1-a)*NO_{CSU}$

Conveyance costs:

$a*RO_{CO}+(1-a)*NO_{CO}+PK$

Gate costs

As outlined in the OPTA announcement dated 22 December 2000, the Commission applies a gate rate in the amount of NLG 0.02 per minute.

Retail increment

An average retail increment rather than a service-specific increment is applied to fixed telephone communication services reported in ONP speech including fixed to mobile calls. In view of the significant shared costs, service-specific allocation would be complicated and thus, less than useful.

Stage 1: Aggregate cost for ONP speech services diminished by costs of sourcing traffic from third parties

Stage 2: Calculate network costs

Stage 3: Calculate retail charges (sum total of stage 1 - sum total of stage 2)

Stage 4: Calculate retail increment percentage (sum total of stage 3 ÷ sum total of stage 2).

The retail increment for ONP speech services and thus, for fixed to mobile calls, has been set at 23% based on information having been furnished by KPN.

Squeeze test

The squeeze test is as follows:

End user rate adjusted to take account of discount ≥ interconnection rate adjusted to take account of retail charges.

Set-up:

$REVENUEsetup*k \geq [a*RO_{CSU}+(1-a)*NO_{CSU}]*C$

Conveyance:

$REVENUEconveyance - Econveyance*(1-k) \geq ([a*RO_{CO}+(1-a)*NO_{CO}]+PK)*C$

Provided both tests are passed, it is established that there is no question of price squeeze.

The following symbols are used in the formulae:

a = proportion of calls which, having passed 1 EVKC, are handed over to a mobile provider

RO = Regional Originating per minute

NO = National Originating per minute

CSU = Call Set Up (set-up rate)

CO = Conveyance (traffic rate)

k = (100 – discount percentage)/100

C = 1 + retail increment/100

Econveyance = end user conveyance rate

REVENUEsetup = end user set-up rate

REVENUEconveyance = revenue for KPN (traffic)

PK = gate costs per minute