ERG public consultation on a draft Common Position on symmetry of mobile/fixed call termination rates

In 2007, the ERG worked on the question of symmetries and asymmetries for fixed and mobile termination rates within two project teams, the first one on fixed termination rates and the second one on mobile termination rates, as planed in the ERG's work program for 2007.

Regarding mobile termination rates, this work will be followed up with a new project team focusing on the harmonisation of methods used by national regulatory authorities to implement the cost orientation remedy.

This document summarizes the main analyses that have been made in the two groups working on symmetry issues. First, it includes a general economic introduction on principles regarding termination rates regulation. Then, a first part is dedicated to fixed termination rates and a second part to mobile termination rates.

The status of this document is a draft common position; some aspects are not consensual for now. Consequently, this document should be considered as a basis for discussions. The purpose of the public consultation is to gather stakeholder's opinions, which will be taken into account to build a final common position.

In particular, ERG highlights the following points are being discussed within the ERG:

- the length of the timeframe to enforce symmetry of fixed termination rates for a new entrant
- the justification of an asymmetry while mobile termination rates are not at costs in specific market circumstances

ERG welcomes any comments regarding this document, and is especially interested in receiving answers to the following questions.

General questions

QUESTION G1: Do you think that the principles outlined in the general economic introduction cover adequately the underlying economic situation of both mobile and fixed termination markets?

- If yes, do you think they are sufficiently reflected in the two parts on "MTR symmetry" and "FTR symmetry" and that they are consistently applying the principles?
- If no, what do you think is missing and which reasoning should be added?

QUESTION G2: Any further comments regarding consistent regulation of both MTR and FTR with regard to symmetry is welcome.

QUESTION G3: Finally we would like to ask you to elaborate on the question of converging MTR and FTRs and the timeframe you envisage for this.

Draft for Consultation

Fixed part

QUESTION F1: How do you think termination should be regulated in a converging fixed-mobile market?

QUESTION F2: Do you agree on the methodology and assumptions underlying the asymmetry index calculation?

QUESTION F3: Do you think the list in paragraph 7.1 constitutes an exhaustive list of the possible reasons justifying the adoption of asymmetric tariffs?

QUESTION F4: Do you agree on the fact that any entry assistance policy for the future based on higher OAOs' FTRs is likely to be less effective than in the past?

QUESTION F5: Could you please provide a definition of the "efficient operator" NRAs should refer to in fixing FTRs? What are the costs an efficient operator would incur to provide termination services?

QUESTION F6: Do you agree on the fact that OAOs should be as efficient as the incumbent?

QUESTION F7: Do you agree on the fact that there are less reasons for fixed operators compared to mobile operators that justify the adoption of asymmetric tariffs?

QUESTION F8: Do you agree on the fact that if all call termination charges were based strictly on incurred costs there would be a distortion of competition?

QUESTION F9: Do you agree on the fact that symmetric tariffs would allow to avoid transaction and regulatory costs?

QUESTION F10: Do you agree on the fact that NRas should reach symmetry in fixed termination tariffs within a reasonable period of time?

QUESTION F11: Do you agree that it would be reasonable for NRAs to allow a transition period to move to symmetric FTRs? How long should this transition period be?

QUESTION F12: In your opinion what criterion should NRAs adopt to set the glide path?

QUESTION F13: As the length of the glide path is a controversial point, in your opinion, should the time period to reach symmetry be the same for all NRAs or should each NRA determine it according to national circumstances?

Mobile part

QUESTION M1: Do you agree with the general principle promoting symmetry: "*Termination rates should normally be symmetric*"?

Exception to take into account exogenous factors, not related to a late entrance:

QUESTION M2: Do you agree with the exception to take into account exogenous cost differences: "*asymmetry is only acceptable to take into account exogenous factors, outside the*

Draft for Consultation

control of operators"? The only example, which is not related to a late entrance, identified by ERG is cost differences due to the spectrum licensing holdings. Can you identify other exogenous factors?

QUESTION M3: Do you agree with the following principle: "*Assuming that cost differences due to different spectrum allocation are properly evaluated, they may justify an asymmetry*"?

Transitory exception to take into a significantly late entrance:

QUESTION M4: Do you agree with the following principle: "*If the level of competition in the mobile retail market asks for measures which create incentives for new network level entry or measures that strengthen the position of small new entrants, substantial differences in the date of market entry can justify an asymmetry for a transitory period"* ?

QUESTION M5: Do you agree with the principle of keeping the level of asymmetry "*reasonable*"?

QUESTION M6: Do you agree with the fact that an initial level should be accompanied by a glide path towards symmetry?

QUESTION M7: Do you agree with the fact that national factors should be taken into account to evaluate the length of the transition period?

Transitory exception before MTRs are at cost, to limit distortions created by MTRs above costs:

QUESTION M8: Do you agree that in specific market circumstances (MTRs tariffs are significantly above MTR costs, there are high traffic imbalances between mobile operators and benefits of a transitory asymmetry outweigh any short term disadvantages of doing so), a temporary asymmetry may limit competitive distortions?

QUESTION M9: Do you agree that NRAs should first try to set MTRs at costs?

Draft for Consultation

Contents

Draft for Consultation

General economic principles of termination rates regulation

The current regulation of termination rate asymmetry / symmetry …

The majority of European National Regulatory Authorities (NRAs) have now concluded their market analyses regarding fixed and mobile termination services (markets 9 and 16), under the new Regulatory Framework of 2002. NRAs generally found operators to have SMP on their individual mobile/fixed networks. Consequently, ex-ante regulation was imposed including above all price control obligations.

These regulatory measures, imposed either on fixed termination markets or on mobile termination markets, induced a global decrease of both mobile and fixed termination rates as well as - in some countries- a reduction of asymmetries, which could exist between termination rates of network operators within a single country. In the past, in countries with existing asymmetries, NRAs have sometimes justified them on a temporary basis. It has been argued especially by the European Commission that NRAs should start to specify convergence of all termination rates towards a single reference.

However, beyond these general observations, this Europe-wide effect on termination rates hides very heterogeneous situations in countries – as NRAs may have imposed to SMP operators different price control remedies or have specified the same remedy differently, especially using different cost analysis tools and methodologies leading to heterogeneous cost references. Consequently, the absolute level of termination rates currently enforced and the resulting asymmetries are quite different across Europe, even though over time a narrowing of the differences in the methodologies used and accordingly in the asymmetries can be observed. [1]

At this stage, it is worth to remind that symmetry can concern either remedies (symmetry in remedies meaning the same remedy for fixed or mobile operators) or termination rates (symmetry in rates meaning there exist a single termination rates for all fixed or all mobile operators). **The present document mainly focuses on the second type of symmetry, i.e. termination rates symmetry and investigates the conditions under which it could be advisable for NRAs to impose symmetric termination rates to notified operators.**

… Leads the European Commission to invite NRAs to make termination rates asymmetry disappear

In the frame of Article 7 procedures, the European Commission increasingly invites NRAs to make termination rates asymmetry disappear and to specify, meanwhile, the convergence conditions towards termination rates symmetry, with regard to both target level and time frame. The Commission considers indeed that the termination rates should normally be symmetric and that asymmetry requires an adequate justification.

In this regard, ERG has reassessed the need to reach symmetric rates in the revised Remedies CP (2006): "*NRAs will have to formulate expectations about a reasonable period of time until when the price of the entrant may become regulated according to the general regulatory*

[1] Cf. ERG Report on "Regulatory Accounting in Practice".

Draft for Consultation

approach to the sector, taking into account the competitive situation in the markets. ... Although it might be justified in the light of the goal of sustainable competition that new entrants are treated differently, the long run goal is to ensure that all operators are producing efficiently".[2]

To a larger extent, the right of new entrants to recover their costs should be reconciled with the regulatory objective of achieving the maximum level of efficiency in the supply of termination services. Hence, asymmetries should not remain in force for too long and each operator's TR should be brought down to the cost of an efficient operator as soon as possible.

Economic principles tend to recommend the setting up of a unique and uniform termination rate for all network operators …

Termination rates regulation, given related stakes and impacts for the electronic communications sector, is a recurrent topic considered by the economic literature[3]. The purpose here is to recall and summarize general arguments. It appears that both symmetric and asymmetric TRs induce economic welfare costs and benefits.

Economic principles tend to recommend a unique and uniform TR, determined with reference to costs incurred by an hypothetic efficient operator, i.e. a termination rate which does not depend on costs effectively incurred by the operators or on their market shares. This efficient TR level indeed is the right signal to give incentives for productive efficiency[4], less efficient operators trying to overcome their inefficiency (in lowering their costs to avoid losses which ultimately result in market exit) and more efficient operators realizing profits over regulated prices, investing and innovating. Gains in productive efficiency put pressure on final services' prices and contribute to end-users welfare.

With regard to its position (in particular as understood from Article 7 procedures comments), it seems the Commission is in line with these economic theory arguments and with the assumption that equally efficient operators are assumed to have equal market shares, at least for mobile network operators.

Unlike a unique efficient TR level, asymmetric TR pricing does *a priori* not favor productive efficiency. In particular, even if it ensures every type of operators (efficient or not) to recover their incurred costs, it imposes a constraint on more efficient operators to subsidize the relative inefficiencies of their competitors. Consequently, incentives to deal with inefficiencies may be reduced and passed on to downstream markets, which is detrimental to the end users. In other words, regulators allowing asymmetric termination rates over a too long period risk to encourage inefficient market entry.

However, asymmetric TR may be justified for example:

- to take into account differentiated conditions of spectrum allocation;
- to encourage the development of a new entrant on the market, which suffers from a lack of scale due to late market entry. Indeed, this allows higher expected profits in the short term and induces a more intense competition in the long term to the benefit of

[2] Revised ERG Remedies CP (ERG (06) 33 of June 2006, p. 113.
[3] Among others: Gans and King (2000), Wright (2002), Peitz (2005), Valletti (2006).
[4] According to the economic theory, "productive efficiency" is achieved when firms minimize total cost (given inputs needed and competitive prices of inputs) with respect to technology of production.

Draft for Consultation

end users. In other words, a regulator may allow asymmetric rates for a limited time period – thus trading off short-term inefficiency for long-term objectives (i.e. dynamic efficiency).

In this case, regulators should keep in mind that asymmetric regulation is sustainable only on a transitional period, because asymmetric regulation also shows a number of drawbacks, among others: an increase of off-net tariffs of the more efficient mobile and fixed operators, lower incentives to invest and innovate, risk of inefficient entry, etc. Furthermore, when choosing this entry encouragement intervention, the regulator must be able to commit itself on a sunset clause (for transparency of the regulatory signal) and to guarantee that differences in prices effectively reflect differences in costs (unit costs versus global costs).

To conclude, according to economic theory, it seems that:

- Symmetric TRs contribute to enhance static economic efficiency (limiting allocative and productive inefficiencies), investment and innovation and finally global welfare, but put forward the risk of market exit for the less efficient operator(s) ;
- Asymmetric TRs, by encouraging entry, contribute to dynamic efficiency and favor competition. However, since with asymmetric rates inefficiencies are passed on downstream markets, if they are maintained in the long term, that may enhance productive or allocative inefficiencies (cross subsidies between operators), which might be detrimental to welfare.

… raising thus numerous regulatory questions NRAs have to face and to answer

All economic arguments existing on termination rate asymmetry / symmetry raise questions on two main regulatory issues:

- the definition of the appropriate regulatory remedy and its enforcement;
- the costing methods and TR convergence.

These two issues can be supported by a general economic approach at a European level but will be applied at a local / national level taking into account the Member States specificities

Obligations imposed to fixed or mobile termination rates raise the following questions:

- What is the most appropriate remedy for the enforcement of TR symmetry?
- Does TR regulation (via cost orientation to the cost level of an efficient operator) necessarily imply on a long-term basis TR rates symmetry or could objective cost differences justify such an asymmetry? E.g. Are lower market shares resulting from a difference in entry dates a reflection of productive inefficiency?
- How could perverse effects of TR symmetry (e.g. when traffic is unbalanced) on competition dynamics be avoided?

In case it is decided that symmetry between TR should be enforced, the second issue, which is related to costing methods and TR convergence, raise the following questions that a NRA will answer accordingly to its local/national situation, and especially to the development of its local/national markets:

- About TR target level:
    A. What is the “right” TR target level?

Draft for Consultation

B. Which cost references should NRAs use (observed costs and / or costs coming from a model, cost of the incumbent operator, other references, etc.)?
C. According to which method and assumptions should NRAs calculate these cost references? If symmetry is required, is there an additional assumption about market shares to define "an efficient operator"?
D. Should consistency be ensured in TR target levels between the one defined for mobile termination and the one defined for fixed termination, in relation to indirect price constraints, which may exist?
E. If traffic is unbalanced (for example coming from low on-net prices for mobile markets or from CPS for fixed markets), should the TR target level take this into account and if yes, how?

- Moreover, the analysis of the situation all over Europe and not any more just in a single country raises the following questions relative to TR levels:
  F. Which kind of consistency should be ensured between EU member states in TR regulation (TR target levels? TR symmetry? Remedies definition and implementation?) ?
  G. Is it necessary to combine a common position on TR symmetry with a common position on the levels of the TR?

- Meanwhile, until TR symmetry has not been implemented yet, which costs (and according to which criteria) should NRAs take into account to justify on a transitory basis an asymmetry in TR?

- About convergence timetable:
  H. What is the "right" timetable to implement symmetric TR?
  I. Do NRAs have to take into account retail market fluidity (or other criteria) to specify convergence timeframe?
  J. What is a transitional period? How long a new entrant is a new entrant? Does the length of this transitional period depend on retail market conditions (fluidity & maturity)? Does it depend on entry dates?
  K. In case TR did converge and if market shares still remain different or even diverge, what are the consequences on the market / operators of such a convergence? Is there any regulatory action possible / relevant?

The definition of an efficient operator appear, at national level, to be a key issue in defining the "right" TR target level, whereas the retail market conditions (especially fluidity & maturity) appear to be key central issues in defining the associated convergence timetable.

REFERENCES

Gans J.S. and S.P. King (2000) "Mobile network competition, customer ignorance and fixed to mobile call prices", *Information Economics and Policy*, 12: 301-328.

Peitz M. (2005), "Asymmetric Access Price Regulation in Telecommunications Markets", *European Economic Review*, 49: 341- 358.

Valetti (2006), "Asymmetric regulation of mobile termination rates".

Draft for Consultation

Part 1: Fixed Call Termination

Introduction

This document puts forward a common position of the Fixed Termination Rate Project Team (FTR PT) on whether the Fixed Termination Rates (FTR) of the incumbent and Other Alternative Operators (OAOs) should be set at symmetric5 levels. It is noted at the outset that the issue arises under the particular billing system currently adopted across the EU. Under the current Calling Party Pay (CPP) billing scheme terminating operators are entitled to recover the cost of terminating calls that originated from other networks through a per minute charge.

The consensus is that under this regime terminating operators have Significant Market Power (SMP) and that they should be subject to price controls. However, this document highlights that in a number of cases National Regulatory Authorities (NRAs) across the EU have set different FTRs for incumbents and OAOs.

This document first reviews the current state of FTR regulation for incumbents and OAOs, with a focus on the degree of asymmetries and reasons behind these. It:

- illustrates how termination rates of the fixed incumbent and the alternative operators have been regulated across Europe as a result of the first round of market 9 analyses and tries to identify the main determinants of asymmetries between incumbents and alternative operators termination rates;
- shows that all NRAs that concluded market 9 analysis adopted the definition of the market of the EC Recommendation, that is to say considered call termination on each single network a relevant market. With regards to regulation, generally speaking the remedies imposed are more strict for incumbents operators than for alternative operators (OAOs);
- shows data on the percentage of subscribers in direct access in each country and on the concentration index in markets 1 and 2. Such data indicate the number of customers whose access lines are provided by the incumbent and OAOs, allowing to raise termination revenues;
- illustrates the main technologies used by incumbent operators and the main alternative operators across Europe;
- shows that the adoption of asymmetric tariffs is the dominant rule across Europe. This choice is generally justified by the need to sustain the entry of infrastructure based operators and by the fact that OAOs are not able to realise the same economies of scale of the incumbent. On the contrary, the adoption of symmetric tariffs is justified on the basis that OAOs should not be less efficient than the incumbent, economies of scale are not as significant as sometimes claimed and are easy to implement, without exhausting disproportionate resources on the part of both operators and NRAs.

[5] As explained in Section 2 in this document the terms "*symmetry*" and "*reciprocity*" are used interchangeably.

Draft for Consultation

- shows the results of an asymmetry index calculation – i.e. an indicator of how much termination tariffs differ between the incumbent and the largest OAOs. As some countries have different OAO's termination prices for local and single tandem interconnection, the index has been calculated separately for the two rates.

The document then puts forward a common position in favour of moving towards symmetry in FTR. This means that those NRAs that currently adopt asymmetric FTRs between incumbent and OAOs, or among OAOs, should gradually move towards setting symmetric FTRs. For avoidance of the doubt those NRAs that are already setting FTRs symmetrically/reciprocally are not required to reopen the debate on this issue.

Draft for Consultation

1. The meaning of symmetry

In this document the term "symmetry" is used to broadly describe a situation of "equivalence" between the fixed termination rates (FTRs) of the main fixed operator and OAOs. This encompasses two situations6.

First, it includes the case when the FTRs are set at the same level, e.g. the level for a single or double tandem of an OAO is the same of that of the incumbent, irrespective of the network architecture of the OAO. More precisely, OAO's tariffs are equal to the main fixed operator's tariffs7. The tariffs considered are the termination tariffs for interconnection at the closest relevant point to the called customer for each operator.

Second, it includes the case when FTRs tariffs are reciprocal: in the light of their country experience - where the network architecture of the main fixed operator is considerably more complex - some NRAs concluded for a variety of reasons8 that a different mechanism termed "reciprocity" would be preferable. Broadly speaking, according to the latter, the OAO's FTR is calculated on the basis of the main fixed operator's average FTRs. The average may be derived in a number of ways, including using as weights the proportion of traffic sent by the OAO to the main fixed operator for termination. This means that these arrangements are pairwise-symmetric as between the main fixed operator and each OAO. In other words if the traffic between the two operators were balanced no payments would be necessary. The pairwise combinations may differ, as different OAOs will have different average termination charges.

Both situations are covered by the use of the term "symmetry" in this document, even if definitionally the term is more appropriate for mobile termination.

When setting "symmetric rates, the concept and cost reference to be used needs to be considered too. More precisely, the question is whether the cost reference should be the one corresponding to the incumbent's legacy networks adjusted for efficiency at current cost levels or whether the most efficient currently available technology should be used (which a competitor entering in the market today would most likely use for rolling-out an efficient network).

Another issue also needs reflection. Currently FTRs do not include access network costs while MTRs do. However with mobile network operators increasingly competing for fixed customers, this might lead to a competitive disadvantage for fixed operators and a distortion of competition. In the light of this development, possible remedies to this problem need to be considered (i.e. converging fixed and mobile termination rates), e.g. either taking account of the access network costs when calculating the FTRs or not including them in the MTRs.

Draft for Consultation

[6] In both cases the FTR of the OAO is based on the FTR of the main fixed operator.
[7] In some cases it is used the incumbent's tariff that provides the same service level.
[8] See for example Ofcom, "Determination to resolve a dispute between BT and Telewest about geographic call termination reciprocity agreement – Final Statement", 16 June 2006). Available at: *http://www.ofcom.org.uk/bulletins/comp_bull_index/comp_bull_ccases/closed_all/cw_890/determination.pdf*, para 23.

2. The context

Fixed termination regulation across Europe: an overview

The EC Recommendation on relevant markets defines market 9 as the market for call termination on individual public telephone networks provided at a fixed location and identifies a relevant market for each operator.

All 25 EU-NRAs9 and 2 EFTA NRAs have to date notified market 9 at least once10. All NRAs who notified market 9 adopted the definition of the EC Recommendation.

As a consequence one would expect that all operators are designated as SMP operators – incumbent and OAOs alike – and that the number of SMP operators corresponds in general to the number of fixed network operators (FNOs) that are commercially active in each country and offer termination services. However, as Table 1 shows, this has not been necessarily the case. As a matter of fact, some NRAs initially notified only the most representative alternative operators. Moreover, in compliance with article 7 mechanisms (operators have to be analyzed individually before being notified), several NRAs would have to repeat market 9 analysis in order to notify operators that entered after the market review was concluded11. In other terms, in many cases there exist a temporary lag between the time of entry and the time in which the fixed alternative operator is notified as having SMP.

Table 1 - Number of countries by decision to notify alternative operators

Have all alternative fixed operators been notified?	# of Countries**
Yes	15[a]
No	8
No final decision available	1
Missing	4*
Total	28

**Luxembourg, Poland, Romania, Slovakia.*
*** See Appendix 2, Table A2.1 for details.*
a. In Lithuania and Slovenia draft decisions on market 9 were adopted respectively in September and October 2007,deciding to notify all alternative operators. .

[9] Except the NRAs of the 2 Member States that joined the EU on 1st January 2007. However, ANRCTI recently notified an IC and tariff setting obligation for an alternative operator (RCS & RDS) on the basis of Art. 5 AD which fell within the scope of M9. The Commission therefore urged ANRCTI to complete its market analysis for market 9 as soon as possible (Case RO/2007/0653).

[10] Cf. COMMISSION STAFF WORKING DOCUMENT (SEC(2007)962) Accompanying document to the COMMUNICATION FROM THE COMMISSION TO THE COUNCIL, THE EUROPEAN PARLIAMENT, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS on market reviews under the EU Regulatory Framework (2nd report) {COM(2007) 401 final} of July 11th 2007, Table market 9, pp. 211. The note on the Table to Market 9 states that it provides an overview of notifications assessed until March 31st 2007; however checking has shown that at least for one case not all notifications until that day were included in the Table (BNetzA had notified the remedies for OAOs on February 14th 2006 and the final measures (adopted May 29th 2006) uploaded on June 2nd 2006.

[11] In Germany, RegTP originally did not consider OAOs to have SMP because of DTAG's countervailing buying power, but was vetoed by the Commission (Case DE/2005/0144). BNetzA re-notified all 52 OAOs as SMP operators afterwards (Case DE/2005/0239).
In Lithuania, following Commission's remarks, RRT notified M9 for the second time on September 5th 2007.

Draft for Consultation

With regard to remedies, a clear distinction can be observed between remedies imposed on incumbents, on the one side, and on OAOs, on the other side. The regulation imposed is generally more strict for incumbent operators than for OAOs. With almost no exception12 NRAs impose all Access Directive (AD) obligations on the incumbent operators, while especially smaller OAOs are regulated less strictly than the incumbent and not all obligations are imposed. Thus, for each of the two categories – incumbent operators and OAOs – the remedies are similar across Europe.

Incumbent regulation (remedies)

As stated above, in general all AD obligations were imposed on incumbent operators:
transparency (plus publication of a Reference Offer) (art.9 AD);

- non-discrimination (art.10 AD);
- accounting separation (AS) (art.11 AD);
- access/interconnection obligation (incl. co-location) (art.12 AD);
- price control and cost accounting (art.13 AD).

All countries reported to be using one or other type of cost information to regulate incumbent's FTRs. More detailed information about which costing methodologies are used can be found in the "Regulatory Accounting in Practice" report (ERG (07) 22), which is published on the ERG website13.

As regards the costs included in the determination of the incumbent's termination tariff, Table 2 indicates that almost all countries do not include costs of access lines. Furthermore, while the costs associated with wholesale activities generally are included into cost of termination, other commercial costs (especially related to retail activities) are excluded.

Table 2 – Number of countries by costs included in termination tariff

Are the access line costs and any commercial cost included in the determination of the incumbent's termination tariff?	# of Countries **
Yes	1
No	23
Missing	4*
Total	28

** Luxembourg, Poland, Slovakia, United Kingdom.*
*** See Appendix 2, Table A2.2 for details.*

OAO regulation (remedies)

As stated above, OAOs in general are regulated less strictly than the incumbent and not all AD obligations are imposed on them. More precisely, mostly the following three obligations were also imposed on OAOs across the board:

- transparency (plus publication of a Reference Offer)14, (art.9 AD);
- non-discrimination (art.10 AD);
- access/interconnection obligation (incl. co-location) (art.12 AD).

[12] ECNB has not imposed accounting separation (AS), BNetzA has not imposed formal obligations of transparency and AS on DTAG, but transparency follows from the obligation to publish a reference interconnection offer and the AS obligation follows by law in case the ex-ante price control obligation is imposed (as was the case for DTAG).
[13] http://erg.eu.int/doc/whatsnew/erg_07_22_regulat_account_practice_rep.pdf.
[14] Often subject to the condition that demand is existing.

Draft for Consultation

On the contrary, the two obligations related to tariff setting, namely "price control and cost accounting" and "accounting separation" were not at all imposed (e.g. Denmark, Finland, Ireland) or were imposed in a differentiated way, e.g. price control obligations often take the form of "fair and reasonable" or "non-abusive" prices, which then logically goes together with no accounting separation obligation as this resembles a competition law type of price control ("ex-post") rather than a strict (cost-oriented) price regulation. As a result, in the majority of cases where NRAs set tariffs, they allowed non-reciprocal (asymmetric) FTRs, i.e. OAOs are allowed to charge higher FTRs than the incumbent. The methods to calculate the level of asymmetry in favour of the OAOs (i.e. difference between the OAO's and the incumbent's FTRs, that can be a percentage or a fixed value) vary from country to country. An analysis of the different methodologies is provided in the following paragraphs.

Draft for Consultation

3. OAOs' termination service

While incumbent's termination services were already regulated under the old framework, in the great majority of countries regulation of OAO's termination service was introduced by the 2003 regulatory framework, hence OAOs have been notified for the first time as a consequence of the first market analyses' round carried out by NRAs15.

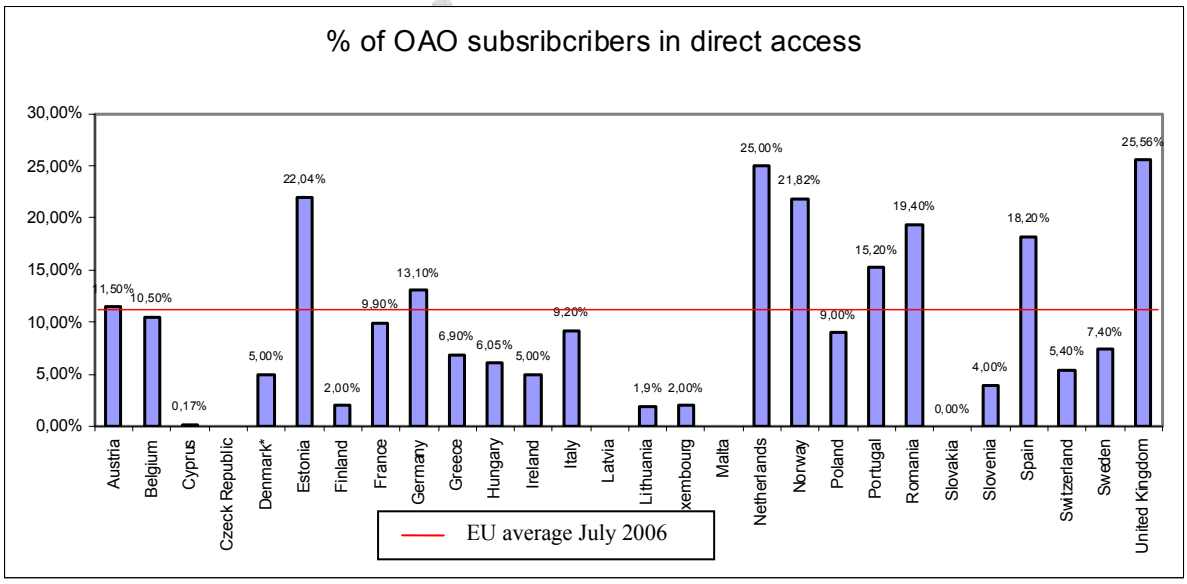
As explained in the document "Economic Introduction"16, the purpose of this paper is to investigate whether it could be advisable for NRAs to impose symmetric termination rates to notified operators. The issues arises due to the fact that in the EU under CPP terminating operators are entitled to recover the cost of terminating calls that originated from other networks through a per minute charge. As a result they have SMP in the provision of termination services requiring the imposition of price controls. In this regard, the following paragraphs contain a review of the main data collected by the IRG FT PT with the purpose to obtain a general picture of termination services offered by alternative operators across Europe.

3.1 Subscribers in direct access

NRAs were asked to provide data on the percentage of subscribers in direct access in each country. This information indicates how many customers are not served directly by the incumbent allowing, therefore, OAOs to realise termination revenues. Direct access may occur through the following access modalities: direct access (own infrastructure such as cable, fibre etc.), LLU and, specific to some countries, wholesale bitstream services.

The following figure (Figure 1) shows data on subscribers in direct access, by country17.

Figure 1 – Subscribers in direct access by country



* The actual value communicated by Denmark is "less than 5%".

[15] In Austria and UK reciprocity of tariffs was imposed before the 2003 Regulatory Framework became effective.

[16] ERG (07) 23 ERG "Common position on symmetry of mobile/fixed call termination rates".

[17] Direct access is the total number of subscribers with direct access, fully LLU connection or with a cable access owned by an alternative operator. This figure excludes wholesale line rental.

It can be observed that United Kingdom and Netherlands are the countries with the highest percentage of subscribers using an alternative provider for direct access (25,56% and 25% respectively), followed by Estonia (22,04%) and Norway (21,82%). The lowest percentage (less than 1%) is observed in Cyprus (for year 2006) (not mentioning the country in which this figure is zero).

Data on the percentage of subscribers in direct access have been grouped into five classes, ranging from countries where such percentage is below 5 to countries where it is above 20. Table 3 shows that for 8 countries, the percentage of subscribers in direct access is very low (≤ 5). In 7 countries, the percentage of subscribers in direct access is between 5 and 10, while it is equal or greater than 20 in 4 cases.

Table 3 - Number of Countries by percentage of OAO subscribers in direct access

% of OAO subscribers in direct access	# of Countries
% of OAO subscr. ≤ 5	8
5 < % of OAO subscr. < 10	7
10 ≤ % of OAO subscr. < 15	3
15 ≤ % of OAO subscr. < 20	3
% of OAO subscr. ≥ 20	4
Missing (no data, not available or confidential)	3*
Total	28

**Czech Republic, Latvia, Malta.*

3.2 Number of OAO

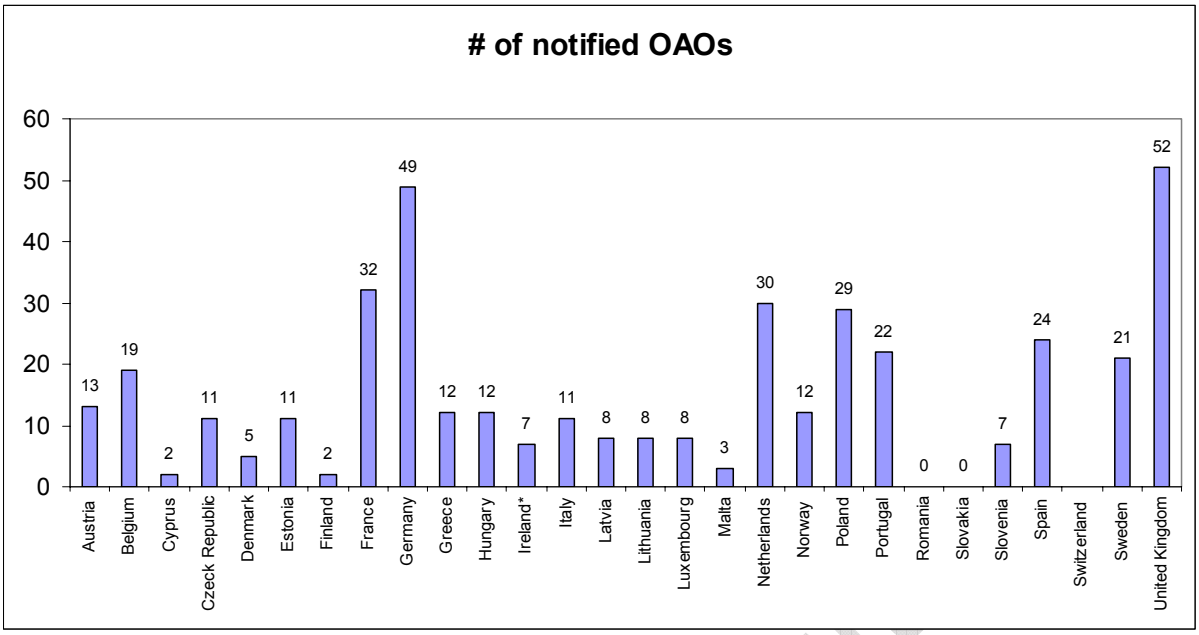
Another data NRAs were asked to provide in order to obtain a general overview of the extent to which OAOs provide fixed termination services throughout Europe is the number of active OAOs, regardless of whether they are notified or not. However, some NRAs highlighted the difficulties they had in providing this information as market regularly faces the entry of new firms and/or mergers among firms. As a consequence only a few NRAs provided these data.

More reliable data were obtained for the number of notified OAOs as a result of the latest market review. In this regard, Figure 2 shows that the number of notified OAO varies from 0 to 52. The United Kingdom has the greatest number of notified OAO (52), followed by Germany (49). It is worth to mention that for Romania the number of notified OAO is zero even if the number of OAO offering FT is 38. Lithuania recently proposed to notify all the existing OAOs with a draft decision adopted on September 5th 2007, but no price controls was foreseen for OAOs. In Slovenia 7 OAOs, with a draft decision adopted in October 2007, were notified as SMP after the second round of market 9 analysis18.

[18] See Commission comments on page 35.

Draft for Consultation

Figure 2 - Countries by number of notified OAOs



** In ComReg's proposal (07/83) there are only 7 notified operators on the FT market, including Eircom.*

Also these data have been grouped into classes ranging from countries where less than 10 OAOs have been notified to countries where there are more than 30 notified OAOs.
As shown in the following table (Table 4), the number of notified OAO is less than 10 in 37% of the analysed cases; it is comprised between 10 and 20 in 33% of the cases; finally, it is equal or greater than 20 in 30% of the analysed cases.

Table 4 - Number of Countries by number of notified OAOs

# of notified OAOs	# of Countries
# of notified OAO = 0	2
# of notified OAO <10	8
10 ≤ # of notified OAO < 20	9
20 ≤ # of notified OAO < 30	4
# of notified OAO ≥ 30	4
Missing	1*
Total	28

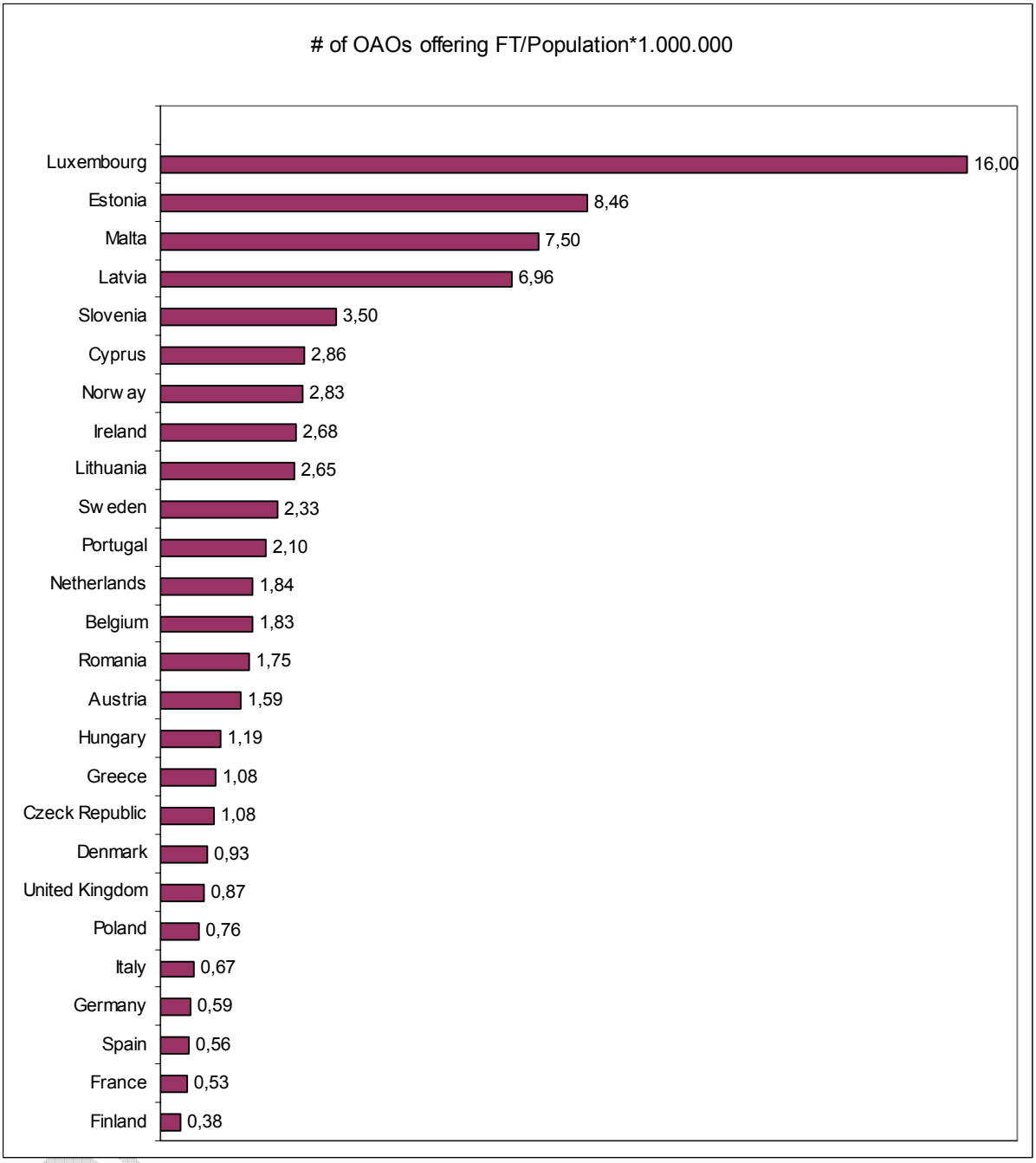
**Switzerland.*

In conclusion, in the great majority of European countries the number of notified OAOs ranges between 10 and 20.

As it is likely that the number of OAOs varies with the population, Figure 3 shows the ratio between the number of OAOs offering fixed termination and total population in each country.
It can be observed that in some counties, such as Denmark, United Kingdom, Poland, Italy, Germany, Spain, France and Finland, the number of OAOs offering fixed termination is less than 1, for 1.000.000 population. On the contrary, in Luxembourg the ratio is 16, meaning that, for the same number of inhabitants, there are 16 OAOs offering fixed termination.

Draft for Consultation

Figure 3 - Number of Operators by population*



** Source for population data: Eurostat, Europe in Figures — Eurostat Yearbook 2006-07, Chapter 1, page 51. Data refer to total population at 1st January 2005.*

Market shares

Market 9 has been defined by all NRAs as the market for call termination on individual public telephone networks provided at a fixed location therefore each operators has a 100% market shares. In order to know how termination traffic is distributed among operators, NRAs were asked to provide information regarding the market shares of the incumbent and the three largest OAOs in markets n. 1 and n. 2 of the EC Recommendation19, both in terms of access

[19] Market n. 1 is defined by the EC Recommendation as "Access to the public telephone network at fixed location-residential". Market n. 2 is defined as "Access to the public telephone network at fixed location-business".

lines and subscribers. Such data can be used as a proxy for the distribution of terminated minutes on each operator's network (assuming traffic is balanced).

NRAs provided mainly data on market shares in terms of access lines. Therefore, in what follows data regarding the market shares in terms of subscribers was only used when data on access lines was not available.

Table 5 shows, for each country, market shares data for the incumbent, the first three OAOs and the aggregate market share of the remaining OAOs.

Table 5 – Market shares in terms of access lines in market 1 & 2

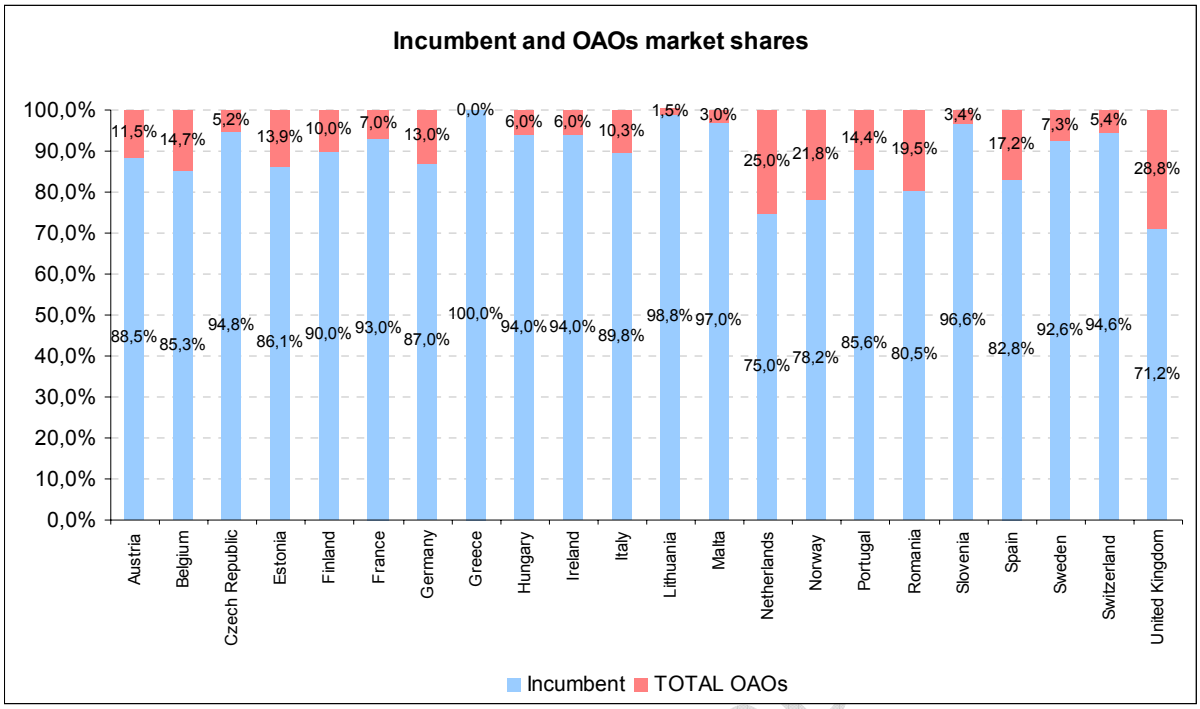
	Aggregate market share					
	Incumbent	OAO1	OAO2	OAO3	Remaining OAOs	TOTAL OAOs
Austria	88.5%	n.a.	n.a.	n.a.	11.5%	11.5%
Belgium	85.3%	11.7%	1.3%	0.2%	1.4%	14.7%
Czech Republic	94.8%	2.6%	1.0%	0.7%	0.9%	5.2%
Estonia	86.1%	6.1%	5.1%	1.0%	1.7%	13.9%
Finland*	90.0%	n.a.	n.a.	n.a.	10.0%	10.0%
France (a)	93.0%	2.9%	2.9%	0.5%	0.7%	7.0%
Germany	87.0%	4.5%	2.0%	1.5%	5.0%	13.0%
Greece (b)	100.0%	0%	0%	0%	0%	0%
Hungary	94.0%	1.2%	1.0%	3.1%	0.7%	6.0%
Ireland	94.0%	3.0%	1.0%	1.0%	1.0%	6.0%
Italy	89.8%	5.4%	3.6%	1.1%	0.2%	10.3%
Lithuania	98.8%	1.5%	0.0%	0.0%	0.0%	1.5%
Malta (c)	97.0%	3.0%	n.a.	n.a.	n.a.	3.0%
Netherlands	75.0%	15.0%	4.0%	2.0%	4.0%	25.0%
Norway	78.2%	8.6%	4.7%	4.2%	4.3%	21.8%
Portugal	85.6%	5.9%	5.6%	2.1%	0.8%	14.4%
Romania	80.5%	17.1%	1.6%	0.3%	0.5%	19.5%
Slovenia	96.6%	2.9%	0.2%	0.2%	0.1%	3.4%
Spain	82.8%	10.3%	1.7%	1.2%	4.0%	17.2%
Sweden	92.6%	3.2%	2.8%	0.3%	1.0%	7.3%
Switzerland (c)	94.6%	n.a.	n.a.	n.a.	5.4%	5.4%
United Kingdom	71.2%	12.6%	n.a.	n.a.	16.2%	28.8%

(a) Data estimated by ARCEP.
(b) Regarding markets 1 & 2, EETT has defined the following markets: one market which includes PSTN and BRA-ISDN access lines and a second market which includes PRA-ISDN access lines. The value in the table is referred to PSTN and BRA-ISDN access lines.
(c) Data regarding market shares in terms of subscribers.
** Incumben's data is referred to the average value of 40 SMP fixed operators.*

Figure 4 illustrates the incumbent's market share, in comparison with the sum of all OAOs' market share in each country.

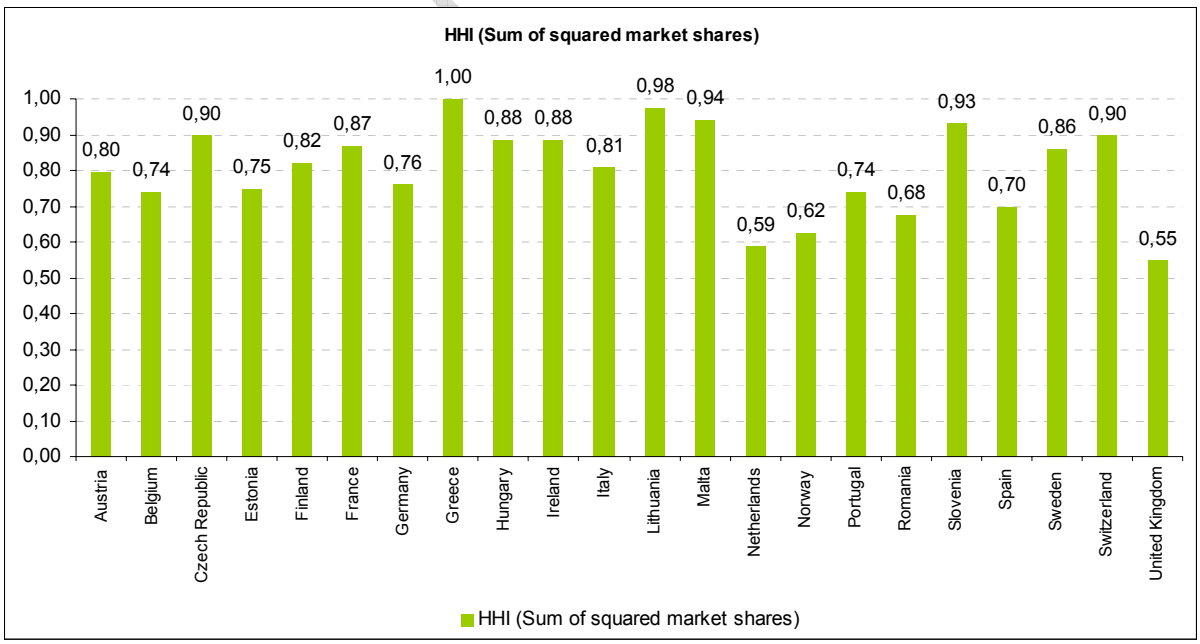
Draft for Consultation

Figure 4 – Incumbent and OAOs market shares in terms of access lines in market 1 & 2



Based on the above data, a market concentration index for markets 1 & 2 was calculated, considering the "Remaining OAOs" as a fourth OAO, for simplification. The market concentration index used is the Herfindahl-Hirschman Index (HHI)20. The index is calculated for the access markets (markets 1 & 2) for the same reasons mentioned above, that is to say that a concentration index for market 9 would make no sense, having each operator a 100% market share. The following graph (Figure 5) illustrates the information obtained, using the available data.

Figure 5 – Access Market concentration index (HHI)*



[20] The index is the sum of the squares of the market shares of each individual firm. Its value ranges from 0, if the market is characterized by the presence of a large amount of very small firms, to 1, in case of monopoly.

**It has to be noticed that the index is overestimated for those countries (e.g. Austria, Finland, Switzerland) for which it has been provided a unique value indicating the total OAOs' market share.*

The figures above show that the markets for fixed access are still highly concentrated across Europe, as a matter of facts in all countries the incumbent's market share is above 70%. This indicates that it is likely that all over Europe the highest percentage of fixed termination traffic (taking into account both on-net and off-net termination traffic) is directed toward the networks of incumbents operators.

It is also important to observe that the level of markets shares on access markets is often used as an indicator of the economies of scale realizable by operators. Data shown in the above figures should lead to conclude that only incumbent operators are able to realize considerable economies of scale. However, it has to be taken into account that this relation does not necessarily hold, as efficient OAOs could succeed in concentrating their customer base in few locations, realizing adequate economies of scale, despite their low national market share (e.g. regional operators).

Draft for Consultation

4. An overview of the technologies adopted by incumbents and OAOs

Network technologies used

NRAs were asked to indicate the technologies mainly used in the core and access networks of the incumbent and of the three largest OAOs, as the adoption of different technologies may have an impact on the costs of termination tariffs and the related regulatory strategies.

First, both incumbents and OAOs may claim that the costs sustained for new investments should be reflected in higher termination tariffs. Second, the boundaries between access and transport/core network could change in order to reflect the new network architecture, affecting the valuation of termination costs. Third, the use of IP technology will increase the level of network common and shared costs and will require the identification of proper drivers for voice services.

It has to be considered that, from a functional point of view, the change of technology does not change the nature of the service provided by any operator. Therefore, any implication on termination tariffs following technology changes adopted by an operator must be carefully considered by NRAs.

Whereas data on the technologies adopted by incumbents and OAOs in the core network are summarized in Table 6 and 7, data on the technologies adopted in the access network are summarized in Annex 3.

Table 6 shows that the large majority of the incumbents (21 out of 28) still uses PSTN technology. Nevertheless, for almost half of the countries, the incumbent's network can be qualified as a mix of PSTN and IP. One incumbent (Italy) is all-IP for its national backbone.
For incumbents, even if PSTN technology remains the dominant core technology, IP technology currently seems gaining importance among European historical networks.

Draft for Consultation

Table 6 - Technology used by incumbents and the 3 largest OAOs in core network

Type of operator	Technology used	# of Countries**
Incumbents	PSTN	9
	PSTN & IP	12
	Other	2
	Missing	5*
TOTAL		28[1]
3 main OAOs[2]	Mainly PSTN	6
	Mainly IP	10
	Mix of PSTN & IP	5
	Missing	7***
TOTAL		28

** Czech Republic, Denmark, Luxembourg, Poland, Slovakia.*
*** See Appendix 2, Table A2.3 for details.*
**** Austria, Czech Republic, Denmark, Luxembourg, Poland, Slovakia, Switzerland.*
[1]Estonia did answer both PSTN and PSTN&IP: it is counted as PSTN.
[2]The categorization in "Mainly PSTN", "Mainly IP" and "Mix of PSTN and IP" strongly depends on the answers given about technology used by OAOs and market shares.

As regards technologies used by OAOs in their core network, three main profiles can be drawn (see second part of Table 6):

- Mainly PSTN: in 6 countries, PSTN is the technology mainly used by the largest OAOs. This may result from the development of the early alternative networks (cable or telephony through carrier selection/pre-selection or, in some cases, cable).

- Mainly IP: in 10 countries, IP is the technology mainly used by the OAOs (this does not necessarily mean that all OAOs use exclusively this technology). It is likely that, at least for some countries, activities were launched later than the beginning of liberalization and, therefore, the core network was originally developed using IP technology for efficiency purposes or services development reasons[21].

- Mix: in 5 countries, operators use different technologies or both PSTN and IP. For those countries, it is not possible to identify a trend among the OAOs.

[21] As a matter of facts the average start year for OAOs using IP is 2003 versus 2000 for OAOs using PSTN or PSTN&IP.

Draft for Consultation

Table 7 – Number of operators by core technology of the 3 largest OAOs in all countries

Type of operator	Technology used	# of Operators**
OAOs	Mainly PSTN	15
	Mainly IP	26
	Mix of PSTN & IP	17
TOTAL		58

*** See Appendix 2, Table A2.4 for details.*

Moreover (see Table 7), only 15 OAOs out of 58 for which information has been provided, use mainly PSTN, whereas 17 OAOs use mainly PSTN & IP and 26 OAOs use mainly IP. This figure shows that IP is becoming the standard technology among OAOs in Europe.

Table 6 and Table 7 reveal that the majority of operators is adopting, or is about to adopt, IP as its core technology. More precisely, three different situations can occur depending on the country context:

- Countries where PSTN is still the dominant technology: those countries did not face changes in interconnection architectures yet.

- Countries where the transition to IP is already widely engaged (for instance because of the deployment of an NGN network by the incumbent and the appearance of IP networks operated by OAOs). Those countries must deal with new interconnection architectures and with the use of IP networks for new services (TV, Broadband Internet, VOD, etc.).

- "Half-way" countries, where some of the operators still mainly use PSTN as some others deploy IP networks. The main regulatory issue in these countries is to provide a common regulation for these different type of operators.

Therefore, the situation varies significantly among countries. Even if it is likely that, in the long term, the technological landscape will be more homogeneous throughout Europe, in the short term, regulation in each country should be adapted to the current stage of migration of the domestic operators.

Particular attention to incumbent's migration

The migration to NGN is likely to lead, in the long term, costs savings for the provision of the telephony service by the operators (due to larger economies of scale and scope)22. However, in the phase of transition from PSTN to NGN, incumbent operators may claim higher termination tariffs arising from inefficient incurred costs (for instance, costs attributable to the coexistence of two partially utilized operated networks). As NRAs should favor efficient investments, it may be argued that reflecting such short-run inefficiencies in FTR should be avoided. Moreover, it has to be taken into account that, in the great majority of countries, the incumbent's termination charges constitute the most relevant interconnection expense for OAOs (because of the former's still large market share on the retail market).

[22] For further information, NRAs can refer to the works of other IRG Documents: the IRG IP Interconnection WG and the IRG NGN Accounting WG are dealing respectively with FTR interconnection modes and with cost accounting in IP networks.

Draft for Consultation

Fixed and mobile convergence

A further issue, about fixed termination tariffs, that NRAs have to tackle is related to the mobile operator's entry in fixed telephony markets.

In several member states, recently mobile network operators (MNOs) (using both GSM and UMTS technologies) commercialised offers that allow mobile customers the possibility to port or activate geographic numbers on their mobile telephones, thus offering fixed telephony services through their mobile handsets.

In such cases, if NRAs allow that mobile termination tariffs are applied to geographic numbers, a caller may have to pay a price that reflects mobile termination rates (MTR) rather than FTR23.

In other cases, MNOs enter the fixed telephony markets (through mobile numbers) and by offering a converging telephony service under fixed retail rates (e.g. Homezone, bundles with ADSL access). In such cases, the competition between MNOs and traditional fixed telephony operators may be misbalanced by the wholesale revenues differences of both operators: MNOs benefit from mobile termination rates that are several times higher than fixed termination rates and may use this difference to subsidise the retail prices. This is particularly acute when call terminates on the customer device through the fixed network.

NRAs will have to pay attention to these cases of potential disruptive competition between mobile and fixed operators.

Draft for Consultation

[23] NRAs will have, therefore, to balance the issue of retail tariff transparency with that of the proper remuneration of mobile termination tariffs, taking into account that considerations related to asymmetry (e.g. entry assistance) may not necessarily apply to MNOs.

5. Status on asymmetry/symmetry

A current predominance of asymmetry…

One of the key data for the purposes of the FTR PT regards the number of countries that adopted asymmetric regulatory measures for FTR. The decisions taken so far by different Member States on fixed termination rates (market n. 9 of EC Recommendation) show that the adoption of asymmetric tariffs is nowadays a rule rather than an exception.

As a matter of fact, the majority of countries (69,2%) adopted asymmetric fixed termination rates. Table 8 shows that only 8 countries out of the 26 for which data are available (30,8%), already imposed symmetric termination rates, namely Austria24, Czech Republic, Lithuania25, Luxembourg26, Malta, Sweden, Switzerland, United Kingdom27.

Table 8 - Number of Countries by status on fixed termination rate

Are FTRs symmetrical?	# of Countries
NO	18
YES	8
Missing	2*
Total	28

**Poland, Slovakia.*
*** See Appendix 2, Table A2.5 for details.*

OAO price control method

NRAs have been asked also to provide information on how termination rates are determined for notified OAOs.

Table 9 shows a summary of the answers to this question. The recurrent OAO price control methods are:

1) incumbent fixed termination rate plus x% mark-up, ranging from 10% to 30%;
2) reasonable prices;
3) delayed reciprocity: OAO's tariffs at time "t" are set equal to the incumbent's tariffs at time "(t - x)". This imply that if incumbent's tariff are declining over time, OAO's tariff will decline as well, but will never be equal to incumbent's tariff (i.e. tariffs will not become symmetric);
4) symmetry: in some countries symmetry is reached after a so called "Glide path". This implies that OAO's tariff at time "t" are set higher than incumbent's tariffs and are subject to decrease at a predetermined rate or through a predetermined ratio/mark-up, such that they will be equal to the incumbent's tariffs in year "$(t + x)$";

[24] In Austria OAO's charges are set equivalent to incumbent's charges. Higher fee could be considered if operators substantiate higher costs.
[25] Information for Lithuania is taken from the IC agreements with the incumbent, as OAOs are not regulated at the moment.
[26] In Luxemburg tariffs are symmetric for all operators but one.
[27] In the UK OAOs' FTR are set under the concept of "reciprocity" as explained in Section 2.

Draft for Consultation

Table 9 - OAO price control method

OAO's tariff not regulated*	Asymmetry	Symmetry
Denmark, Finland, Ireland, Hungary, Latvia, Lithuania, Slovenia, Switzerland**	EU25 simple average FTR on single transit level: **Estonia**	Symmetry in Practice: **Luxembourg**: yes, except for Verizon (+20%)
	Charges of OAOs are regulated based on incumbent's charges plus X%/€-cent: **Belgium, Germany, Portugal, Spain.**	OAOs charges equivalent to incumbent's current charges (unless explicitly proved higher cost-base allowing higher charges): **Austria, Malta, Norway, Sweden**, **United Kingdom,**
	"*Symmetry after a glide path*": OAOs' rates will fall into line with the incumbent's rate at the end of a glide path: **Ireland** (prop.)[28], **Italy***, Luxembourg** (prop.), **Slovenia** (prop.)[29]	
	"*Delayed reciprocity*": OAOs' rates are set at incumbent's rates X years before (plus Y% mark-up), but no convergence to reciprocity over time: **Cyprus, France, Greece, Netherland**	

**Either prices are not regulated and/or a decision on market 9 has not been adopted yet.*
*** FICORA has notified market 9 for the second time on October 26th, 2007, suggesting to impose cost orientation obligation to all operators (including OAOs).*
****Italy at the moment is in the process of developing a bottom-up LRIC model for determining OAO's termination rates.*

The table shows that "delayed reciprocity" and "glide path" do not exclude each other, in the sense that there are countries that imposed a glide path towards symmetry fixing the first value of the path equal to the incumbent's rate x year before. Only in two countries (Italy and Luxembourg) it has been imposed or, at least proposed, a glide path towards symmetry.

An interesting case is that of Ireland where ComReg has just published its draft decision on FTRs30, according to which "..the OAOs shall have price control obligations: once a OAO reaches a 5% share of the Market …. of total direct access paths, it shall, from a date to be determined by ComReg, become subject to a price control obligation taking the form of a glide path towards an efficient rate. ComReg will consult on the appropriate period for such a glide path period and the appropriate level of the regulated price to be achieved by the OAO,

[28] In Ireland the efficient rate to be achieved by the OAO at the end of the glide path will be towards the symmetrical rate of the incumbent but not necessarily the same rate. The efficient rate/regulated rate and the glide path period will be determined by further consultation once the individual OAO reaches a 5% market share of direct access paths.
[29] In the new market 9 analysis notified to the Commission, APEK proposed an approach towards symmetry, where OAOs FTRs are based on incumbent's charges +X%. X will be decreasing during next 3 years and symmetry will be reached on January 1st 2011.
[30] Available at: http://www.comreg.ie/_fileupload/publications/ComReg0783.pdf.

Draft for Consultation

once ComReg has determined that the OAO has reached the 5% share of the Market threshold" 31.

Asymmetry index

In this paragraph a first attempt has been made to calculate an asymmetry index, that is to say an indicator of how much termination tariffs differ between the incumbent and the largest OAOs in terms either of access lines or of subscribers.

Some countries have different OAO's termination prices for local and single tandem interconnection, therefore the asymmetry index has been calculated separately for the two rates. Those countries having a unique OAO's termination price indicated whether this price had to be compared with the incumbent's local or single tandem termination price for the asymmetry index calculation.

The calculation of the asymmetry index has been carried out according to the following steps:

1. Calculate the price for a 3 minutes local call terminated on the incumbent's network, respectively for peak, off-peak1 and (if any) off-peak2 periods;
2. Calculate the price, for a 3 minutes single tandem[32] call on the incumbent's network, respectively for peak, off-peak1 and (if any) off-peak2 periods;
3. Calculate the average price for a local call terminated on the incumbent's network. Simple assumptions are made regarding the traffic distribution between peak/off-peak1/off-peak2 periods: 50/25/25. In the absence of an off-peak2 period, the assumption for the distribution peak/off-peak is 50/50.
4. The average price for a single tandem call terminated on the incumbent's network is calculated under the same assumptions.
5. The steps 1 to 4 are then repeated with the alternative operator's rates. In principle, the same assumptions as above are used.
6. The asymmetry index is defined as the ratio between the average price to terminate on the incumbent's network (A) and the average price to terminate on the OAO's network (B). The index formula is $\frac{(B-A)}{A}$. Separate values are calculated for local and single tandem rates.

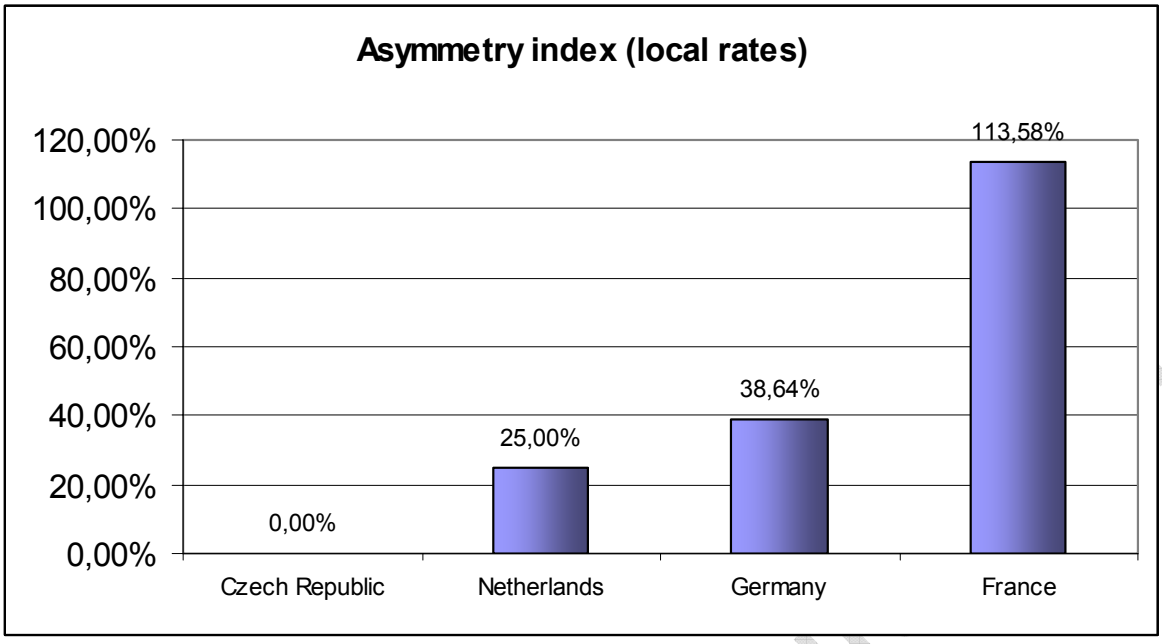
FTRs are updated at 1st July 2007. The results obtained are shown in the Figure 6 and Figure 7.

Draft for Consultation

[31] If a OAO does not reach the 5% share of the Market of total direct access paths within a five-year timeframe, ComReg may decide to impose a price control regulation, following consultation on an appropriate glide path and an appropriate level of a regulated price to be achieved at the end of the glide path period.

[32] There are some arguments to ignore double tandem: it is not the most efficient interconnection level; it does not exist in all countries; it is sometimes not regulated or it represents a minor part of the traffic.

Figure 6 – Asymmetry Index for local rates



Only 4 countries provided the data necessary to calculate the asymmetry index for local rates (Figure 6), therefore it is quite difficult, if not impossible, to draw clear conclusions.

Figure 7 – Asymmetry Index for single tandem rates

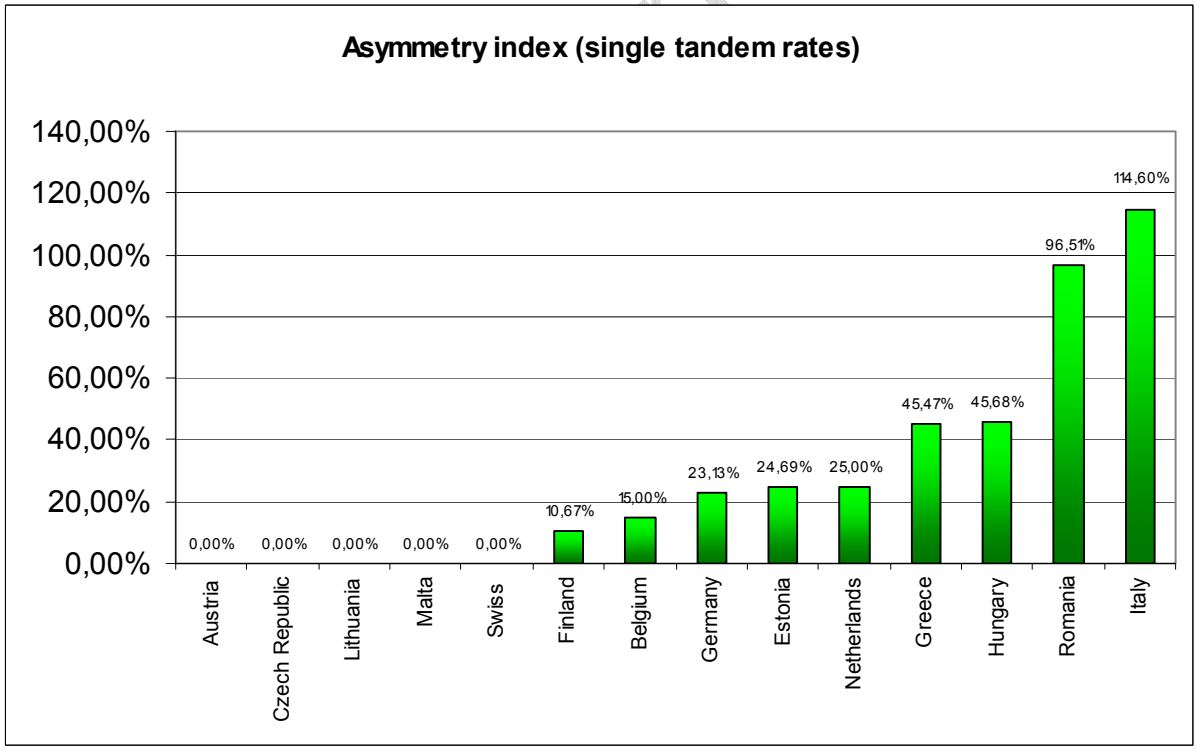


Figure 7, where the data from 14 countries are presented33, shows quite clearly the existence of 3 groups of countries: a group of countries for which the index value is 0 (symmetric

[33] Finland's index is based on average termination charge of 40 SMP-operators.

termination rates), a group of countries with a limited asymmetry (from 10% to 25%) and a latest group with higher index values (40% and above)34.

These results have to be carefully interpreted because they can be strongly dependent on the set of assumptions. Particularly, the results could be influenced by the actual traffic distribution between time periods. Additionally, the possible differences in the definition of peak/off-peak periods were ignored. Calculations are made for the cost of a standard 3 minutes call and not on the total termination traffic.

Another source of possible distortion comes from the fact that the OAOs do not necessarily have the same interconnection structure of the incumbent. OAO have generally only one interconnection level and thus a unique termination rate, while most incumbents have local and single tandem rates. This is illustrated in the following table:

Table 10 – Number of levels in OAO's termination rates

	# of Countries**
Only local TR	2
Only single tandem TR	9
Only one TR (level not specified)	3
Different TR for local and single tandem	3
Same TR for local and single tandem	2
Missing	9*
Total	28

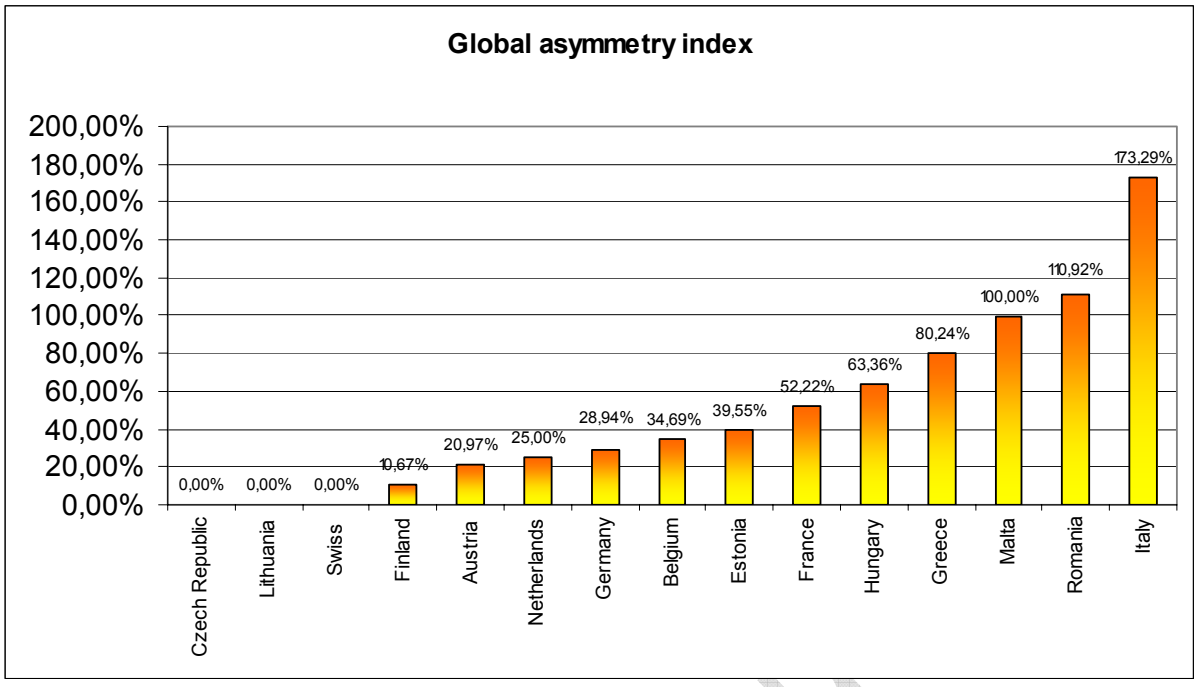
**Denmark, Ireland, Latvia, Luxemburg, Norway, Poland, Slovakia, Sweden, United Kingdom.*
*** See Appendix 2, Table A2.6 for details.*

In order to take into account the differences in interconnection structure, a global average price to terminate respectively on the incumbent's network and on alternative operators' networks can be used, under the assumption that the distribution between local and single tandem traffic is 50/50. A global asymmetry index can than be calculated as a ratio between the global average price to terminate on the incumbent's network and the global average price to terminate on the OAO's network. This global index is reported in Figure 8.

Draft for Consultation

[34] In Greece, according to the EETT Decision n. 459/135, dated 14th November 2007, the new termination rates for alternative operators have been set up to 1,131 Euro cents/minute.

Figure 8 – Global Asymmetry Index



It has to be noted that indexes based on actual termination revenues and traffic (actual revenues per minute) should give different results but should request more detailed data than currently available in most countries. Only France, Spain and Portugal communicated the actual average FTR revenues for the incumbent and for the OAOs. The index values obtained with these data are the following:

Table 11 – Asymmetry indexes based on actual termination revenues

	Local Index	Single Tandem Index	Global Index
France	98,33%	not applicable	41,52%
Portugal	-	-	20%
Spain[35]	77,15%	10,87%	36,39%

Interconnection links and switching ports

Provided that generally speaking OAOs' FTR are not always strictly cost oriented, possible reasons to be carefully analyzed in order to explain the differences in asymmetry index across member states are the way in which interconnection agreements discipline the costs of interconnection links and switching ports.

In the majority of countries, as shown in Table 12, incumbent does bear at least a part of the costs of interconnection links for reverse traffic as a separate fee (i.e. the cost is separated from the termination tariff). The most recurrent way to finance interconnection links is to share the costs among the traffic originated by each interconnected operator – this follows the principle of utilization of IC link. In some countries the costs of IC links is shared on other grounds (e.g. simply dividing the costs by two or building their own half IC links and wiring them). Countries indicating that incumbent does not bear costs of IC links, noted that either IC

[35] Index values for Spain take into account Telefonicas's rates for time-based interconnection as well as for capacity-based interconnection. Spain provided actual data for taking into account the capacity-based interconnection effect in Telefónica's termination rates, but the FTR assumptions were used for the rest of calculations.

Draft for Consultation

links are to be build by OAOs (incumbent requires to interconnect at his site) or incumbent transfers the costs of IC links onto the OAOs through installation and monthly fees.

Table 12 – Costs of interconnection links

Does the incumbent bear the cost of the interconnection links for traffic directed to OAOs networks?	# of Countries**
Yes	7
Split between incumbent and OAO on a traffic basis	7
Split between incumbent and OAO on another basis (infrastructure, ½ costs, distance)	4
No	5
Missing	5*
Total	28

** Czech Republic, Luxembourg, Poland, Slovakia, United Kingdom.*
*** See Appendix 2, Table A2.7 for details.*

Obviously in all cases where the incumbent does not bear a separate fee for interconnection links, OAOs may justify an higher termination tariff.

Table 13 shows that incumbents usually do not pay switching ports to OAOs (more than half respondents) as separate fees. One respondent noted that switching ports constitute a part of interconnection link and therefore are split by the operators according to their traffic balance. The switching ports' price is generally not regulated (7 countries) and in a few cases (3 countries), it is regulated on a cost orientation basis.

Table 13 – The costs of switching ports

Does the incumbent pay switching ports to terminate traffic on the OAOs' networks?	# of Countries**
Yes	6
No	14
Split	1
Missing	7*
Total	28

** Czech Republic, Germany, Hungary, Luxembourg, Poland, Slovakia, United Kingdom.*
*** See Appendix 2, Table A2.8 for details.*

These data show that additional costs may be related to termination rates and may be incurred either by the incumbent or by the OAOs. Whenever the port is not rewarded by a separate fee, OAOs can recover the costs through their per-minute fees. The inclusion or exclusion of these costs may partially explain not only the asymmetry within a country but also the differences in asymmetric indexes across countries.

Incumbent on-net/off-net retail tariffs differentiation

NRAs were also asked whether the incumbent is allowed to differentiate retail tariffs between on-net and off-net calls in the retail markets corresponding to the wholesale fixed termination

Draft for Consultation

market, namely markets in n. 3 and n. 5 of the EC Recommendation36. Furthermore, where the incumbent is allowed to differentiate at the retail level (i.e. to pass on the higher termination rates of OAOs to end users), NRAs were asked to indicate whether there is evidence of such behaviour by the incumbent. However, differentiating retail tariffs could be considered as discriminatory, if the incumbent would offer termination on his own network below the regulated interconnection costs or would pass on more than the termination rates of OAOs to end user (increasing his own retention).

If the incumbent is allowed to discriminate at the retail level, it may raise its off-net retail prices - i.e. for the calls terminating on OAOs' networks - compared to the price of on-net calls. As a result, the incumbent's customers may benefit from network externalities arising from this price differential and this may harm OAOs. Historically, some NRAs have allowed OAOs to charge asymmetric and higher FTR. This in itself may be seen as an attempt to counter the potential benefits of the larger networks from exploiting network externalities. If a NRA considered that the current differential between the on-net and off-net retail prices of the incumbent could harm competition, it may have two ways to proceed. It may consider whether it is appropriate to address this under Competition Law, or alternatively it may, should this be appropriate, consider the issue in a possible market review of fixed retail markets 3 and 5.

Only 6 countries, out of the 8 that adopted symmetric tariff, provided information about on-net/off-net differentiation. Among them only one country does not allow the incumbent to differentiate retail tariffs, whereas for the remaining countries differentiation is allowed.
The following tables report data on the twenty countries which have not adopted symmetric wholesale fixed termination tariffs or for which this information is missing. As shown in Table 14 almost all countries do allow differentiation of incumbent's retail on-net and off-net tariffs. Only in Estonia the incumbent is not allowed to differentiate between retail tariffs.

Table 14 – Retail on-net / off-net tariff differentiation

Is the incumbent allowed to differentiate among on-net and off-net tariffs?	# of Countries
Yes	17
No	1
Missing	2*
Total	20

** Poland, Slovakia.*
*** See Appendix 2, Table A2.9 for details.*

Leaving apart those countries in which FTR are symmetrical and Estonia (where the incumbent is not allowed to differentiate FTR tariffs), it can be observed that in 14 countries out of 17 for which data are available, the incumbent does actually differentiate between on-net and off-net retail tariffs (Table 15).

[36] Market n. 3 is defined by the EC Recommendation as "Publicly available local and /or national telephone services provided at a fixed location-residential". Market n. 5 is defined as "Publicly available local and /or national telephone services provided at a fixed location-business".

Draft for Consultation

Table 15 – Incumbent retail on-net/off-net differentiation

Does the incumbent actually differentiate among on-net and off-net tariffs?	# of Countries
Yes	14
No	3
Missing	2*
Total	19

**Poland, Slovakia*.
*** See Appendix 2, Table A2.10 for details.*

Draft for Consultation

6. Common position on symmetry

Having reviewed the situation across European NRAs as to whether the FTR of OAOs and of the incumbent are set in a symmetric or asymmetric fashion, we are now in a position to put forward our recommendation for a common position. This section, first examines the reasons used so far by NRAs to justify allowing OAOs to set higher FTR. Second, it examines whether such reasons may still be justified almost ten years after the liberalisation of fixed markets in most EU member states. Third, it puts forward a recommendation that FTRs of OAOs and incumbents should be symmetric.

Reasons for FTR asymmetry

As shown in Sections 3 to 6 most NRAs currently set or allow OAOs to set their FTR's higher than those of the incumbent. NRAs have been invited to provide a justification for the adoption of symmetric vs asymmetric tariffs. In general, taking into account that only a few countries provided such information, the main reasons reported by NRAs are the following:

- asymmetry is allowed (sometimes only in the first few years in which OAOs enter the market) because OAOs have lower economies of scale;
- asymmetric tariffs allow to increase new entrant's profits and market shares, therefore they provide further incentives for alternative operators to invest in new networks, particularly in the access part;
- asymmetry is justified by the fact operators have different network coverage, structure and topology, usually with a sensibly lower number of interconnection points; and
- asymmetry can be justified by the fact that OAOs have a lower bargaining power compared to incumbents hence they pay higher equipment prices.

In other terms, asymmetric FTRs in favour of OAOs have been interpreted by some NRAs as a form of entry assistance that may have long term benefits if they lead to an increase in the number of sustainable providers of fixed telecommunications services in the long run. In particular asymmetric FTR have been justified when incumbent's market shares (in terms of access lines) are very high[37] therefore the percentage of traffic terminating in the OAOs networks is rather limited.
To the extent that this was likely to generate benefits in the form of increased degree of competition and lower prices for consumers that outweighed the costs of asymmetric rates in the initial phase, this could have been an appropriate policy to pursue. A separate justification has relied on the claim that fixed telecoms entrants suffer from dis-economies of scale.

Reason for FTR symmetry

Irrespective of whether the justifications used by NRAs to allow OAOs to set higher FTRs in the past are justified, it is appropriate to assess whether in the future FTRs should become symmetric. In most EU member states it has been almost ten years since the fixed telecommunications sector was liberalised.

[37] In this regard, Table 5 shows that only in three countries incumbent's market share in term of access lines is below 80%.

Draft for Consultation

While the promotion of entry may have been justified in the past, there are perhaps less reasons to believe that it would be effective in the future (irrespective of whether it was effective in the past). While in the past fixed telecom operators essentially provided a limited range of telephony services, in recent years operators have been able to use the same network to provide a wide range of services, including broadcasting and broadband Internet in addition to telephony. This means that revenues from termination services are proportionally likely to become less important to all operators, incumbents and OAOs alike.

As such any entry assistance policy based on higher OAOs' FTRs is likely to be less effective than in the past. Given that the higher FTRs of OAOs translate in higher prices for calling these networks for consumers, if they are unlikely to promote more competition in the long run, they would be significantly less justifiable than in the past.

There are also other advantages in setting symmetric FTRs.

First, given that under CPP the consensus is that the terminating operator would have a monopoly in setting its FTR, there may be justifications to set them at the level of an efficient operator for all operators in order to provide incentives to be efficient.

In this context it may be difficult to justify a decision not to provide the same incentives to all operators and it may not be clear why OAOs should not be as efficient as incumbents.

Indeed, it is unclear whether and, if so, to what extent OAOs would suffer from diseconomies of scale relative to the incumbent. Unlike in the mobile sector where generally all operators are subject to coverage obligations and have to adopt a specific technology, fixed OAOs are free to enter in selected areas – i.e. the ones that are potentially the most profitable – and adopt whichever technology they believe it is the most efficient. In this regard, a fixed OAO operating an a regional basis, using a new technology and an optimized network will presumably be able to reach an efficient scale in a relatively short timeframe. Therefore, the claim that OAOs suffer from dis-economies of scale may not be as strong as sometimes thought. Furthermore, the claim that there are exogenous factors that lead to them having higher costs – an argument valid for setting asymmetric MTRs in the face of different and not modifiable spectrum endowments – may therefore not be justifiable.

Second, there is also an argument that the FTRs imposed should not undermine the pressure for effective competition at the retail level due to the presence of an externality. In call termination this arises because charges for call termination are included in the originating operator's cost base and are reflected in the retail charge paid by the caller, not the recipient of the call. Consequently, operators have incentives to set high call termination charges which raise their competitors' costs. Furthermore, operators have weak incentives to minimise costs and charges of call termination because the implications of high charges are faced by the customers of competing operators. The consequence of this is that if all call termination charges were based strictly on incurred costs, there would be a distortion of competition. If one operator, through being more efficient, were able to deliver calls more cheaply than another, the operator benefiting from this efficiency and lower cost would not be the more efficient operator which has reduced termination costs, but the less efficient operator since it is buying the cheaper call termination service. The less efficient operator would therefore gain a competitive advantage.

Draft for Consultation

Third, the increase in the number of OAOs that followed liberalization may lead to an increase in the overall regulator's and operators' resources invested in setting asymmetric FTRs. As the potential benefits from setting asymmetric FTRs may be lower than in the past it could be argued that one of the benefits of symmetric FTRs is that they are easy to implement without exhausting disproportionate resources. Thus a desirable feature of symmetric tariffs is that they resolve the transaction costs that would arise from multiple negotiations, as well as the regulatory costs arising from the assessment of each individual OAO's charging proposal in applying cost control or in the event of a dispute.

A common position on FTR symmetry

Given the above considerations and the fact that some NRAs have already chosen to adopt a glide path38 leading to symmetric tariffs, recognising that initial differences between incumbent operators and new entrants may justify the adoption of temporary asymmetric rules, it is proposed that those NRAs that are currently not setting symmetric FTRs should do so within a reasonable period of time.

For avoidance of the doubt those NRAs that are already setting FTRs symmetrically are not required to reopen the debate on this issue.
However, it would not be reasonable for NRAs to move to symmetric FTRs immediately, as a transition period is justified in order to allow OAOs to reach a sufficient level of operational efficiency in the shortest time possible.

In terms of what may constitute a reasonable period of time, it must be considered that in order to set a path of convergence towards symmetry NRAs will have to undertake a market review.

Therefore, it is suggested here that NRAs, in their next market 9 review, should consider setting a path to achieve symmetry in FTRs as soon as possible (e.g. over a period of four to five years39) taking into account the prevailing local circumstances such as the date of market opening, the actual number of OAOs and their respective market shares.

Possible Developments

The considerations and the common position proposed in this document reflect the current billing arrangements adopted in the EU – i.e. CPP and per minute charging40. These may have to be revised to the extent that future developments undermine the existing billing arrangements or NRAs - European Commission choose to modify these. For example, the emergence of flat-rates or bundles of calls at retail level may call into question the current per minute charges. Furthermore, the issue of symmetric vs. asymmetric FTRs would be no longer relevant if the current arrangements are modified in the future to adopt systems such as bill and keep.

Draft for Consultation

[38] Glide path towards symmetry: OAO's tariff at time "t" are set higher than incumbent's tariffs and are subject to decrease at a predetermined rate or through a predetermined ratio/mark-up, such that they will be equal to the incumbent's tariffs in year "(t + x)".
[39] Taking into account that the length of glide path, for those NRAs that already adopted it, ranges from 2 to 5 years, a period of 4 to 5 years seems to leave NRAs a reasonable leeway.
[40] With the exception of the Spanish experience, where the regulation of interconnection capacity based services in 2001 fuelled the introduction of voice retail flat rate tariffs by the alternative operators, often bundled with broadband services.

ANNEX 1: SUMMARY OF COMMISSION'S COMMENTS ON MARKET 9

COUNTRY	
Austria	
Belgium	
Cyprus	On Sep. 6, 2006 Commission closed its investigation at end of phase 1 with one comment. OCECPR proposed to impose obligations on three alternative operators (D.Y. Worldnet, Callsat and Telepassport) once they become active in the market for wholesale call termination (expected in 12 to 18 months after the review). Commission reminded OCECPR that remedies can only be imposed on undertakings that are already active on the market when the SMP assessment is done.
Czech Republic	
Estonia	
Finland	
France	
Germany	The Commission made comments on Price control mechanism: "The Commission reminds BNetzA that the provisions of the TKG referring to a "double dominance" test and restricting BNetzA's power to impose remedies are currently subject to examination in the context of infringement proceedings in accordance with Article 226 of the EC Treaty. The Commission points out that the possibility of imposing ex ante price control on a wholesale market is provided by the Access Directive independently of the SMP status of the operator in the corresponding retail market(s). Secondly, the Commission invites BNetzA to monitor whether in the absence of ex ante price regulation ANOs attempt to increase their fixed termination rates. If this is the case BNetzA should reconsider imposing ex ante price control instead of relying on multiple dispute resolutions that result in a lack of certainty in the market".
Greece	
Hungary	The Commission made comments regarding the market 9 (HU/2007/0727) on 05.12.2007. 1. The Commission requested the consideration of imposing cost regulation obligation on alternative operators comparable with smaller incumbents. 2. The Commission requests the repeated carrying out of the analysis if a common European standpoint on a unified termination cost accounting system will be developed in the current work of ERG and the Commission. Finalization of decision is in process.
Ireland	
Italy	The Commission made comments on Legal certainty of regulatory obligations**:** Obligations imposed under the AD should be based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in Article 8 of the Framework Directive. Where an NRA intends to impose different remedies on different operators within similarly defined markets, such differential treatment should be adequately reasoned. In order to increase legal certainty AGCOM should reconsider the need to specify the glide path preferably in the final measure. Moreover, in order to better safeguard the interest of consumers, the AGCOM is invited to develop a cost model as soon as possible for calculating ANOs' termination rates that, while being based on costs takes into account the necessity for ANOs to become efficient over time.

Draft for consultation

Lithuania	The Commission notes that RRT did not define relevant markets with regard to call termination services provided by other operators of fixed networks in Lithuania. The Commission would like to urge RRT to conduct the market assessment with regard to those other operators who provide wholesale fixed termination services in Lithuania as soon as possible. If appropriate and justified, RRT could impose differentiated remedies on those operators, by taking into account (for example) the size of the undertakings.
Malta	
Norway	
Poland	
Portugal	Regarding the asymmetrical application of remedies, the Commission reiterated that obligations imposed under the Access Directive should be based on the nature of the problem identified, proportionate and justified. The Commission invited ICP-ANACOM to monitor closely the development of the cost structures of the operators on which the obligation to charge "fair and reasonable prices" was imposed and to assess whether its current assumptions on "fair and reasonable prices" will remain relevant over the period of the market review.
Slovakia	
Slovenia	The Commission notes the need for harmonized European approach of setting termination rates. Regarding the current work of the ERG, which purpose is to set the harmonized cost accounting methodology for call termination on fixed location, the Commission asks APEK to revise the analysis once the common position on a European level is reached. (SG-Greffe (2007) D/206744 from date 31.10.2007, regarding notified market analysis of M8 (SI/2007/0689), M9 (SI/2007/0690) and M10 (SI/2007/0691) – final decisions are yet to follow).
Spain	The Commission made a comment on: Asymmetrical application and legal certainty of remedies. The Commission reiterates that obligations imposed under the Access Directive should be based on the nature of the problem identified, proportionate and justified in the light of the objectives laid down in Article 8 of the Framework Directive. The remedies should provide adequate transparency and legal certainty for market players. In respect of price control obligations imposed on ANOs (reasonable price) the Commission invites CMT: i) to define in detail in the adopted measure the scope of the remedies imposed, including the criteria to be used in order to assess whether the termination prices charged by ANOs are reasonable, and ii) to monitor closely the development of the cost structures of the operators on which the obligation to charge reasonable prices is imposed, and to assess whether its current assumptions will remain relevant over the period of this market review.
Switzerland	
United Kingdom	

Draft for Consultation

ANNEX 2: DETAILED TABLES' DATA

Table A2.1 (*detail of* ***Table 1 Number of countries by decision to notify alternative operators***)

Have all operators been notified?	Member State
YES	Austria
	Belgium
	Denmark
	Estonia
	Finland
	France
	Germany
	Greece
	Latvia
	Lithuania
	Netherland
	Portugal
	Slovenia
	Spain
	Sweden
NO	Cyprus
	Czech Republic
	Hungary
	Italy
	Malta
	Norway
	Switzerland
	United Kingdom
No final decision available	Ireland
	Luxembourg
	Poland
	Romania
	Slovakia
TOTAL	**28**

Draft for Consultation

Table A2.2 (*detail of* ***Table 2 Number of countries by costs included in termination tariff***)

Are the access line costs and any commercial cost included in the determination of the incumbent's termination tariff?	**Member State**
YES	Latvia
NO	Austria Belgium Cyprus Czech Republic Denmark Estonia Finland France Germany Greece Hungary Ireland Italy Lithuania Malta Netherlands Norway Portugal Romania Slovenia Spain Sweden Switzerland
	Luxembourg Poland Slovakia United Kingdom
TOTAL	**28**

Draft for Consultation

Table A2.3 (*detail of* ***Table 6 Technology used by incumbents and the 3 largest OAOs in core network***)

Type of operator	Technology used	Member State
Incumbents	PSTN	Austria Belgium Estonia Germany Greece Ireland Portugal Slovenia Switzerland
	PSTN & IP	Cyprus France Hungary Latvia Lithuania Malta Netherlands Norway Romania Spain Sweden United Kingdom
	IP	Italy
	Not taken into account due to the diversity of incumbents	Finland
		Czech Republic Denmark Luxembourg Poland Slovakia
TOTAL		**28**
3 main OAOs*	Mainly PSTN	Germany Ireland Latvia Norway Portugal United Kingdom
	Mainly IP	Cyprus France Greece Hungary Italy Malta Netherlands Romania Slovenia Sweden
	Mix of PSTN & IP	Belgium Estonia

Draft for Consultation

		Finland Lithuania Spain
	Missing	Austria Czech Republic Denmark Luxembourg Poland Slovakia Switzerland
TOTAL		**28**

**The categorization in "Mainly PSTN", "Mainly IP" and "Mix of PSTN and IP" strongly depends on the answers given about technology used by OAOs and market shares.*

Draft for Consultation

Table A2.4 (*detail of* ***Table 7 Number of operators by core technology of the 3 largest OAOs in all countries***)

Type of operator	Technology used	# of Operators
OAOs	Mainly PSTN	Germany (3) Ireland (3) Latvia (2) Lithuania (1) Norway (2) Portugal (2) United Kingdom (2)
	Mainly IP	Belgium (1) Estonia (2) France (2) Greece (2) Hungary (2) Italy (1) Lithuania (1) Malta (3) Netherlands (2) Norway (1) Romania (3) Slovenia (3) Sweden (3)
	Mix of PSTN & IP	Belgium (2) Estonia (1) Finland (3) France (1) Greece (1) Hungary (1) Italy (2) Lithuania (1) Latvia (1) Portugal (1) Spain (3)
TOTAL		**58**

Draft for Consultation

Table A2.5 (*detail of* ***Table 8 Number of Countries by status on fixed termination rate)***

Are FTRs symmetrical?	Member State
NO	Belgium Cyprus Denmark Estonia Finland France Germany Greece Hungary Ireland Italy Latvia Netherlands Norway Portugal Romania Slovenia Spain
YES	Austria Czech Republic Lithuania Luxembourg Malta Sweden Switzerland United Kingdom
Missing	Poland Slovakia
TOTAL	**28**

Draft for Consultation

Table A2.6 (*detail of* ***Table 10 Number of levels in OAO's termination rates)***

Number of levels in OAO's termination rates (TR)	Member State
Only local TR	France Spain
Only single tandem TR	Austria Belgium Estonia Greece Hungary Italy Malta Romania Switzerland
Only one TR (level not specified)	Lithuania Portugal Slovenia
Different TR for local and single tandem	Czech Republic Germany Netherlands
Same TR for local and single tandem	Cyprus Finland
Missing	Denmark Ireland Latvia Luxemburg Norway Poland Slovakia Sweden United Kingdom
TOTAL	**28**

Draft for Consultation

Table A2.7 (*detail of* ***Table 12 Costs of interconnection links)***

Does the incumbent bear the cost of the interconnection links for traffic directed to OAOs networks?	**Member State**
YES	Belgium France Hungary Ireland Italy Norway Portugal
Split between incumbent and OAO on a traffic basis	Estonia Germany Greece Lithuania Netherlands Romania Sweden
Split between incumbent and OAO on another basis (infrastructure, ½ costs, distance)	Austria Finland Malta Spain
NO	Cyprus Denmark Latvia Slovenia Switzerland
Missing	Czech Republic Luxembourg Poland Slovakia United Kingdom
TOTAL	**28**

Draft for Consultation

Table A2.8 (*detail of* ***Table 13 The costs of switching ports)***

Does the incumbent pay switching ports to terminate traffic on the OAOs' networks?	**Member State**
YES	Denmark France Ireland Italy Netherlands Norway
NO	Austria Belgium Cyprus Estonia Finland Greece Latvia Lithuania* Portugal Romania Slovenia Spain Sweden Switzerland
Split	Malta
Missing	Czech Republic Germany Hungary Luxembourg Poland Slovakia United Kingdom
TOTAL	**28**

Draft for Consultation

Table A2.9 (*detail of* ***Table 14 Retail on-net/off-net tariff differentiation)***

Is the incumbent allowed to differentiate among on-net and off-net tariffs?	**Member State**
NO	Estonia
YES	Belgium Cyprus Denmark Finland France Germany Greece Hungary Ireland Italy Latvia Netherlands Norway Portugal Romania Slovenia Spain
Missing	Poland Slovakia
TOTAL	**20**

Draft for Consultation

Table A2.10 (*detail of* ***Table 15 Incumbent retail on-net/off-net differentiation)***

Incumbent retail on-net/off-net differentiation	Member State
YES	Belgium Cyprus Denmark Finland Germany Greece Hungary Italy Latvia Netherlands Norway Portugal Romania Slovenia
NO	France Ireland Spain
Missing	Poland Slovakia
TOTAL	**19**

Draft for Consultation

ANNEX 3: ACCESS TECHNOLOGIES ADOPTED BY INCUMBENTS AND OAOs

Access technology

As regards technologies used by incumbent operators in their access network, PSTN is still the main used technology in all countries in Europe. Nevertheless, many incumbent operators have also developed other access technologies, such as WLL, naked DSL, Optic fiber, or Cable.

Table A.3. 1 - Number of countries by incumbents' and 3 largest OAOs access technology

Type of operator	Technology used	# of Countries **
Incumbents	PSTN	13
	PSTN + other	8
	Missing	6*
TOTAL		27***
With at least one of the 3 largest OAOs using as its main access technology:	PSTN	12
	Cable	12
	ADSL (VOIP)	9
	Optic Fiber	4
	WLL	2

** Cyprus, Czech Republic, Denmark., Luxembourg, Poland, Slovakia.*
*** See Table A3.1a for details*
**** Finland is not taken into account because of the large diversity of incumbents and OAOs.*

As regards technologies used by OAOs in their access network, Table A.3. 1 above and Table A.3. 2 below show that the situation varies from one country to another. However, three main access technologies can be identified for OAOs:

- PSTN (used in 12 countries and by 24 operators);
- Cable (used in 12 countries and by 18 operators);
- ADSL (used in 9 countries and by 19 operators).

Therefore, there is not a dominant access technology among the OAOs in Europe and it seems that historical development of competition and regulation in each country is the main factor explaining the local situations (strong position of cable operators, incentives for LLU, will to develop optic fiber, etc.). Country geographic specificities may also have influenced the OAOs' technological choices.

Table A.3. 2 - Number of operators by access technology of the 3 largest OAOs of all countries

Draft for Consultation

	Technology used	# of Operators**
Main access technologies used by OAOs:	PSTN	19
	Cable	18
	ADSL (VOIP)	10
	ADSL + Optic Fiber	4
	Optic Fiber	3
	PSTN + ADSL	4
	WLL	1
	PSTN + WLL + ADSL	1
	Other	1
TOTAL		61*

**Finland is not taken into account because of the large diversity of incumbents and OAOs.*
*** See Table A3.2a for details.*

Table A3.1a (*detail of* ***Table A.3. 1 Number of countries by incumbents' and 3 largest OAOs access technology***)

Type of operator	Technology used	Member State
Incumbents	PSTN	Belgium France Germany Hungary Ireland Italy Latvia Lithuania Malta Portugal Romania Switzerland United Kingdom
	PSTN + other	Austria Estonia Greece Netherlands Norway Slovenia Spain Sweden
	Not taken into account due to the diversity of incumbents	Finland
	Missing	Cyprus Czech Republic Denmark Luxembourg Poland

Draft for Consultation

		Slovakia
TOTAL		**28**
With at least one of the 3 largest OAOs using as its main access technology :	PSTN	Austria Estonia Germany Hungary Ireland Italy Lithuania Malta Norway* Portugal Switzerland United Kingdom
	Cable	Austria Belgium Estonia Hungary Lithuania Malta Netherlands Portugal Romania Spain Sweden Switzerland
	ADSL (VOIP)	Austria Belgium Estonia France Greece Italy Netherlands Slovenia Sweden
	Optic Fiber	Italy Latvia Slovenia Sweden
	WLL	Estonia Romania

*In Norway two OAO use PSTN and ADSL.

Draft for Consultation

Table A3.2a (*detail of* ***Table A.3. 2 Number of operators by access technology of the 3 largest OAOs of all countries***)

	Technology used	**# of Operators**
OAOs using as its main access technology:	PSTN	Germany (3) Hungary (1) Ireland (3) Italy (2 of the 3 main OAOs) Lithuania (2) Malta (2) Portugal (2) Switzerland (2) United Kingdom (2)
	Cable	Austria (1) Belgium (2) Estonia (2) Hungary (2) Lithuania (1) Malta (1) Netherlands (1) Portugal (1) Romania (2) Spain (3) Sweden (1) Switzerland (1)
	ADSL (VOIP)	Belgium (1) Greece (3) France (3) Netherlands (1) Slovenia (2)
	ADSL + Optic Fiber	Italy (1) Slovenia (1) Sweden (2)
	Optic Fiber	Latvia (3)
	PSTN + ADSL	Austria (2) Norway (2)
	WLL	Romania (1)
	PSTN + WLL + ADSL	Estonia (1)
	Other	Norway (1)
TOTAL		**61***

**Finland is not taken into account because of the large diversity of incumbents and OAOs.*

Draft for Consultation

ANNEX 4: METHODOLOGICAL APPENDIX

1. General methodology followed by the fixed termination project team

The IRG FTR PT organized the work in two steps:

- a detailed review of NRA's practices and positions about regulation of market 9 and management of asymmetries within their country;
- elaboration of common positions to address questions related to symmetry/asymmetry;
- initial discussion on the Italian bottom-up LRIC model.

In this context, the following meetings were organized:

- February 20th, Paris;
- April 19th, Naples;
- July 5th, Helsinki;
- August 31st, Lisbon;
- October 18th, The Hague.

2. Collection of data

The data presented in this document come from a questionnaire circulated among the Fixed Termination Rate Project Team (FT PT) members. The questionnaire is composed by quantitative and qualitative questions reported in an Excel and a Word file respectively.

It has to be noticed that not all the NRAs (National Regulatory Authorities) of the countries listed in the files circulated to the FTR Project team (PT) answered our questionnaire. Furthermore, some of the respondent NRAs did not send complete data.

In order to overcome these problems, FTR PT, where possible, completed the data using other available sources such as, for example, Cullen International or the EU Implementation Report. The results of different draft of this document were circulated to the whole PT in order to take into account comments and corrections.

Draft for Consultation

ANNEX 5: GLOSSARY

Delayed reciprocity: OAO's tariffs at time "*t*" are set equal to the incumbent's tariffs at time "(*t* - *x*)". This imply that if incumbent's tariff are declining over time, OAO's tariff will decline as well, but will never be equal to incumbent's tariff (i.e. tariffs will not become symmetric);

Glide path: OAO's tariff at time "*t*" are set higher than incumbent's tariffs and are subject to decrease at a predetermined rate or through a predetermined ratio/mark-up, such that they will be equal to the incumbent's tariffs in year "(*t* + *x*)";

Mark-up: OAO's tariff is set to an upper or lower level than the reference taken. The mark-up can be a percentage or a fixed value;

OAO: Other Authorized Operator;

Reciprocity: OAO's tariffs are calculated according to the proportions of traffic exchanged at the different incumbent's interconnection levels. It means equivalent tariffs for equivalent offers;

Symmetry: OAO's tariffs are equal to incumbent's tariffs. The tariffs considered are the termination tariffs for interconnection at the closest relevant point to the called customer for each operator.

Draft for Consultation

Part 2: Mobile Call Termination

Methodology followed by the mobile termination project team

General methodology

The ERG PT working on issues related to symmetry and asymmetry organized the work in two steps:

- a detailed review of NRA's practices and positions about regulation of market 16 and management of asymmetries within their country
- elaboration of common positions to address questions related to symmetry/asymmetry

Collection of data

The data presented in this document come from both a questionnaire sent by the ERG Project Team and the collected data in the context of the market survey on mobile termination market.

The ERG PT sent a questionnaire on March 9th, 2007 and results were shared with the core team for the first time in a meeting held in Naples on April 20th. Then, a first draft including these results was circulated to the whole PT on August 8th, a second draft was circulated on September 24th and a third draft was circulated on October 26th, so that comments and corrections could be made.

Regarding the data collected in the context of the market survey on mobile termination market, we used two sets of data, the one collected in January 2004 and the one collected in January 2007. The purpose is to analyse how NRAs managed asymmetries during this period. The assumptions used for this benchmark are:

- For those countries that differentiate between mobile termination tariffs for fixed-to-mobile and mobile-to-mobile, fixed-to-mobile charges have been used.
- In order to obtain a homogenous comparison it has been supposed, for all countries, 3 minutes for average call duration; set-up charges were accounted for by the standard formula[41].
- For those countries that did not communicate a peak/off peak ratio, a value of 1 (50/50) for this ratio has been taken and for peak, off-peak and weekend traffic, 50%-25%-25% has been used.
- Average MT Tariffs per country have been obtained through pondering the average MT tariff of each operator by its market share, measured in terms of subscribers.
- Regarding the number of subscribers, it must be taken into account that different methods to evaluate it are used among European countries (especially in the case of pre-paid consumers).

[41] The formula is (fixed set-up charge + price per minute*3)/3.

Given that the assumed length of average call duration is three minutes, in case mobile operators charged the first minute or 30 seconds, the mobile termination rate would be obtained in the same way as in the case where there is not any set-up charge.

Draft for Consultation

1. The context: regulation of market 16 and mobile termination tariffs

Actual regulation of market 16

All countries identified a relevant market for each operator

25 NRAs from countries belonging to the European Union notified the voice mobile call termination market at least once (Austria, the Czech Republic, Denmark, France, Greece, Hungary, Ireland, Lithuania, Malta, Netherlands, Portugal, Slovakia, Sweden, United Kingdom, Belgium, Luxembourg, Finland, Germany, Poland, Italy, Latvia, Spain, Cyprus, Estonia, Slovenia). In addition, two NRAs belonging to EFTA (Iceland and Norway) and Turkey issued a market analysis of mobile voice call termination market at least once.

All NRAs who notified market 16 used the definition of the Recommendation on relevant markets – i.e. voice call termination.

The two countries having joined EU at the beginning of this year (Romania and Bulgaria) did not notify market 16 yet. In Switzerland, there is no ex ante regulation on mobile voice call termination, so issues are dealt through ex-post regulation.

All operators are SMP operators

All commercially-active operators were designated SMP operators by initial proposed decisions by NRAs (but some decision may have been suspended or annulled). Consequently, the number of MNOs designated as SMP operators is identical to the number of MNOs licensed and commercially active when the market analysis is notified in each country (for countries with ex ante regulation).

Remedies are similar

The following obligations have been imposed in general across all countries to SMP operators:

- access/interconnection obligation: this obligation was imposed to at least one operators in the 28 countries having answered to our questionnaire[42] ;
- non-discrimination: this obligation was imposed to at least one operator in the 28 countries having answered to our questionnaire[2] ;
- transparency:
  - Transparency obligation: this obligation was imposed to at least one operator in the 28 countries having answered to our questionnaire ;
  - Publication of a reference offer: this obligation was imposed to at least one operator in 19 countries from the 28 countries having answered to our questionnaire[2].

[42] Excluding Switzerland because of the absence of ex ante regulation

Draft for Consultation

A price control obligation was imposed by most NRAs (except in Slovak Republic, in Switzerland), in most cases to all SMP operators (except in Finland, in Latvia, in Norway, in Romania, in Denmark).

Accounting separation was imposed to at least one operator in 17 countries to enforce this obligation (from the 28 countries having answered to our questionnaire). This obligation can be differentiated by operators to impose a less strict accounting obligation (or none) to smaller operators (as for example in Belgium, Finland and Latvia)
A price cap was set in 16 countries.

As a conclusion, it can be said that the regulation of market 16 is homogeneous for the definition and the remedies imposed.

A similar remedy of price control but with different practices

Price control is multiform

Concerning price control obligations, 21 countries of the 28 having answered to our questionnaire indicate that they imposed a cost orientation at least on the first mobile operator having entered the market. For later entrants, the price control obligation can sometimes take the form of a "non-excessive" or "fair and reasonable" price rule (e.g. Sweden, French oversees territories).

A price cap was imposed in: Austria, Belgium, Denmark, France, Italy, Latvia, Luxembourg, Norway, Portugal, Romania, Sweden, Turkey, and the UK. In Denmark, Latvia, Norway, Romania and Sweden, the price cap was not applicable to all mobile operators.

Scope of glidepath may be different

Price control on 2G MTR, 3G MTR and / or on a single MTR applied to both 2G and 3G

23 NRAs have answered to the question whether price control is imposed on 2G MTR, 3G MTR, or on a single blended MT rate - corresponding to a single MTR that is applied both when a call is terminated on its 2G network and when a call is terminated on its 3G network. Among these 23 NRAs:

- 22 NRAs have imposed price control on a single MT rate applied to both 2G and 3G.
- Turkey's NRA has imposed a price control only on 2G MTR as no UMTS licence has been assigned yet in this country.

Price control on Fixed-to-Mobile termination rate and / or Mobile-to-Mobile termination rate

25 NRAs have answered to the question whether price control is imposed to F-M only, M-M only, or to both F-M and M-M termination rates. All these NRAs have imposed price control on both F-M and M-M termination.

Price control on a average MTR or on single parts of MT tariff structures

Draft for Consultation

24 NRAs have answered to the question on the way price control is implemented, and especially whether it is imposed on single parts of MT tariff structures (e.g. peak tariff, off peak tariff, setup charges) taken individually, or an average rate specified by the NRA. To specify this average, the NRA makes some assumptions, for example, on the split between peak and off peak, the average duration of the call, etc.

Among these 24 NRAs:
- 19 NRAs have indicated the price control was imposed a MTR average.
- 4 NRA have imposed it on single parts of MT tariff structures (e.g. peak tariff, off peak tariff, setup charges).
- 1 NRA has answered price control was not specified yet: Lithuania (because of a court case)

There are countries where differences in price control implementation could induce differences in MTR levels MNO can apply – which correspond to countries where:
  - setup charges (3 countries) or peak / off peak differentiation (8 countries) do exist,
  - and where thus, the way price control is implemented may affect the MTR ceiling MNOs can not overtake.

And costing tools are heterogeneous

Tools used to obtain cost references and / or to specify price control - different choices possible

Potentially, NRAs have a broad choice regarding tools they may use for MT costing and pricing:
  - top-down accounting data,
  - bottom-up model,
  - hybrid model (i.e. bottom-up model calibrated with data provided by MNOs),
  - international benchmark.

They may choose a main tool; they may also want to use complementary tools.

The costing tool related to top-down accounting data produces cost references, which do correspond to direct references to ***accounting records and asset registers***, and are based on ***real existing mobile networks*** and historical/current data.

The costing tool related to bottom-up models produces cost references coming from ***costs elaborated through an engineering network model,*** which is a ***hypothetical mobile network***. When the model is closed to reality (especially in terms of network architecture and cost structure), we say it is calibrated and does then correspond to a ***hybrid model***. If not, it is a purely ***bottom-up model.***

The following 28 NRAs have answered to the question on costing and pricing tools used: Austria, Belgium, Denmark, Germany, Finland, France, Greece, Italy, Ireland, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Spain, the UK, Iceland, Hungary, Romania, Estonia, Lithuania, Malta, Slovenia, the Czech Rep, Latvia, Poland, and Croatia.

Draft for Consultation

	Top down accounting data	Bottom-up model	Hybrid model (Bottom-up model calibrated with data provided by MNOs)	International benchmark
Main tool	11	2	7	8
Complementary tool	2	0	1	5
In development	0	1	3	0

Note that two NRAs have two main tools:

- Hungary's NRA uses first top-down data provided by MNOs and then, if top-down data lead to unacceptable results, a hybrid model
- Poland's NRA uses both top-down accounting data and international benchmark.

Ireland did not specify which main tool is used (only complementary tool are provided).

Even if NRAs have made the same choice, different practices for each choice do exist

1- Implementation related to top down accounting data

Answers to ERG questionnaire show large disparities in the way

- Top down accounting data are first produced
- Top down accounting data are then checked / verified, in order to be sure data are quite reliable

16 NRAs use top down accounting data and answered to the question related to implementation of this costing tool:

Top down accounting data	Cost accounting specifications imposed by NRAs?	Audited by an independent body?
Number of NRAs	11	14
% among NRAs using top down accounting data as a main tool	58%	83%

Length of time series

Moreover, it appears only few NRAs have a long time series of top down accounting data. Among the 13 NRA having already such data:

- 5 NRAs have a time series for between 1 and 3 years (included)
- 3 NRAs have a time series for between 4 and 6 years (included)
- 5 NRAs have a time series over 7 years
- 1 NRA could not answer (Germany – confidential)

2-Implementation related to bottom up model and hybrid model

11 NRAs have answered to this question related to model's specifications, among them:

Draft for Consultation

- 2 NRAs use bottom-up models as a main tool
- 7 NRAs use hybrid models (i.e. bottom-up model calibrated with data provided by MNOs) as a main tool
- 1 NRA currently developing a hybrid model as a complementary tool to top-down accounting data.

Please note however that one of the 2 NRAs using bottom-up model as a main tool (Lithuania) could not answer to the questions related to model specifications, as the modelling work is currently suspended because of a court case.

The consulting firm Analysys helped to develop the models of 7 NRAs, whereas the firms Ovum, Ernst & Young and Ryan Associates developed 1 model.

All NRA having answered indicated they organised cooperation with MNOs, at least on conceptual choices related to the model.

Almost all NRA calibrated their model with real data.

Over the 10 models, only 2 include a modelling of UMTS networks.

A large disparity does exist regarding depreciation implemented in the model:

- 7 NRA chose to implement economic depreciation (even if this work covers different forms of depreciation)
- 3 chose to implement linear depreciation (i.e. HCA)
- 1 chose to implement tilted annuity

Some NRAs have implemented more than just one depreciation method.

3- Implementation related to benchmark

As already mentioned above, 8 NRAs use international benchmark as a main tool for mobile termination costing and pricing. International benchmark is a complementary tool for 5 NRAs (3 as a complementary tool to top-down data and one as a complementary tool to bottom up model).

The sample (operators, countries, etc.) related to the benchmark used is very different from one country to another, leading to possible different references.

Cost references may differ

Difference in cost used as price target

What is the cost reference? Hypothetical efficient operator, average of costs of operators, operator with highest / lowest costs

NRAs may choose different cost references when implementing cost orientation. They can consider that on a long-term basis, the targeted tariffs are:

Draft for Consultation

- the cost of an efficient operator, and in this case, specify the main characteristics of such an efficient operator (market share, frequencies allocation, technologies used, etc.).
    - This efficient operator is either defined in a model, or…
    - …this efficient operator can also be defined by some NRAs through benchmark
- the lowest cost of all the MNOs, assuming that the MNO bearing the lowest cost is the one which has to be considered as efficient
- the highest cost of all the MNOs, assuming that all the MNO must be able to recover their own borne costs and that the ones bearing MT costs which are below this reference are more efficient than expected, and can keep the 'over-efficiency' benefits
- the average cost of all the MNOs
- the actual (real) cost of each MNO assuming that every MNO must be able to recover their own costs

Some NRAs also do not clearly precise which cost references they use to implement cost-orientation (answer: *undecided yet*).

Practically, NRAs have made the different following choices (according to our questionnaire):
- 8 of them chose the cost reference of an efficient operator
- 1 uses the lowest cost of all the MNOs
- 3 use an average or a weighted average of costs of all the MNOs
- 2 use the highest costs of operators
- 2 use the actual costs of each operator
- 4 use a benchmark
- 5 did not decide yet

Draft for Consultation

Different implementation of remedies leading to different mobile termination rates

In conclusion, even if most countries imposed a cost orientation remedy (or a cost-oriented price cap), the differences in the implementation of this remedy can lead to discrepancies, not only in the management of asymmetries, but also in the average tariffs imposed.

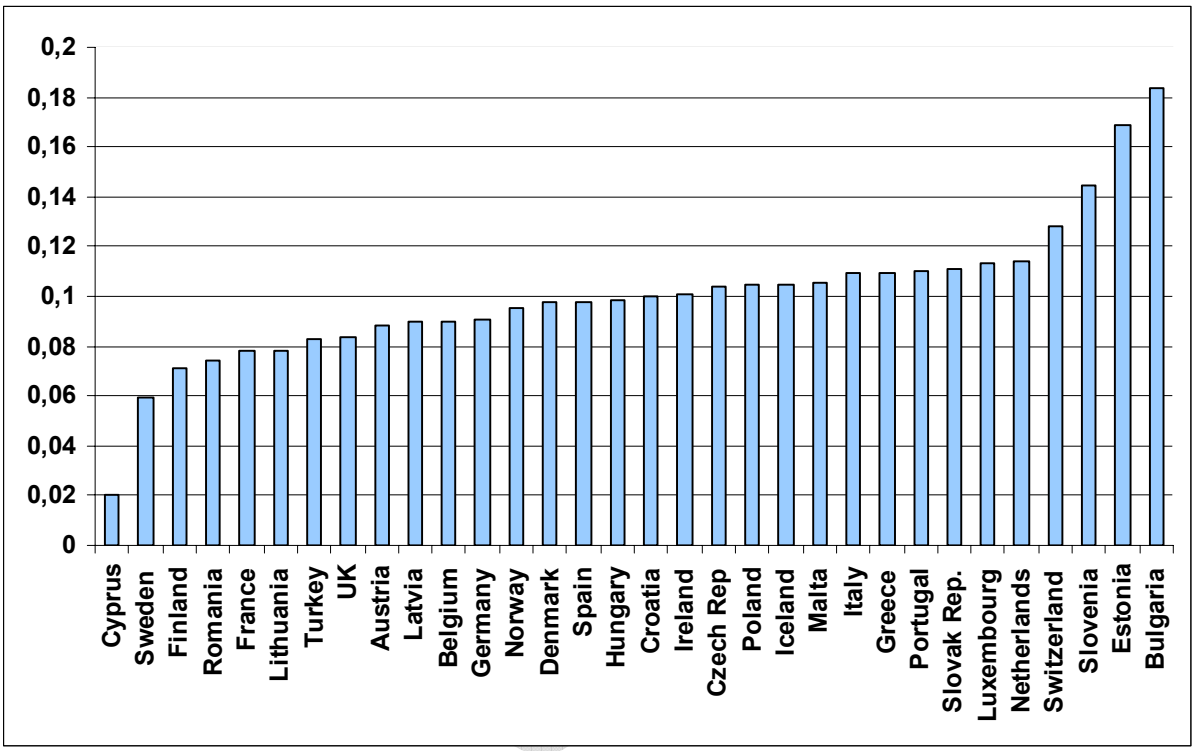


Figure 9: ERG MTR benchmark of average MT tariffs as of July 2007[43]

These differences in MT tariffs can partly be explained by national specificities, but they also rely on differences between practices and principles followed by NRAs.

Draft for

[43] http://erg.eu.int/doc/publications/erg_07_61_rev1_mtr_upd_snpsh_f_publ.pdf. In Austria, the court of appeal annulled the decision which was in place at the time of the publication of the benchmark of January 2007. TKK took a new decision with retrospective effect (as well as for the future) on 15th October 2007: tariffs of Austria take that decision into account.

2. Practices and positions on asymmetry / symmetry

A significant reduction of MTR asymmetries between 2004 and 2007

In this context, asymmetry refers to where there are differences between MTRs of MNOs within the same member state. (In this sense, asymmetry refers to charge *levels*, rather than to differentiation of SMP remedies, e.g. price control versus fair and reasonable).

Thanks to the collected data, the PT elaborated:

- An analysis of the differences between MTRs in January 2004 and January 2007, in order to establish if, comparing a stable sample of 84 operators, a reduction of asymmetries could be observed ;
- A forward-looking analysis of NRAs positions in order to draw a panorama of asymmetry treatment in decisions setting MTRs in the future.

A significant reduction of asymmetries…

Comparison of the MTR benchmark between January 2004 and January 2007

Countries represented in the MTR benchmark are: Austria, Belgium, Denmark, Germany, Finland, France, Greece, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Sweden, Switzerland, Spain, the UK, Iceland, Hungary, Romania, Bulgaria, the Slovak Rep., Estonia, Lithuania, Malta, Slovenia, the Czech Rep, Cyprus, Latvia, Poland, Croatia, and Turkey.

According to the MTR benchmark dated from January 2007, 25 countries allow asymmetric MTRs and 6 countries already applied symmetric MTRs in January 2007.

Comparing a stable sample of operators, the 84 operators which are both in the benchmark of January 2004 and in the benchmark of January 2007, it is observed that:

	January 2004	January 2007
Proportion of operators with an asymmetric MTR	47 %	39 %
Average asymmetry (simple average of all asymmetries, including operators from countries without asymmetries)	1.4 c€	0.9 c€

Sample: the 84 operators which are in the ERG benchmark on mobile termination market of both January 2004 and January 2007

40 operators had a higher MTR than another operator in their country in January 2004. For 7 of these operators (18% of the operators with an asymmetry), the asymmetry disappeared during these 3 years.

But even if the asymmetry does not entirely disappear, there is a movement towards a reduction of asymmetries, as in January 2004, the average asymmetries (within their own

Draft for Consultation

countries) among these 84 operators was 1.4 c€ compared with 0.9 c€ for the same operators in January 2007.

… in a context of MTR's decrease

The decrease of asymmetries has been observed in relation with a decrease of the general level of mobile termination rates on the same period.

Comparing the evolution of the benchmark published by the ERG between January 2004 and January 2007 (the sample includes countries with available data for both 2004 and 2007), significant decreases of MTR levels appear. The average decrease between 2004 and 2007 is about 26%, with very important disparities between countries, from 0% in Lithuania till 51% in Slovenia. In absolute value, the decrease was in average 4 c€/min, reaching 11,1 c€/min in Portugal.

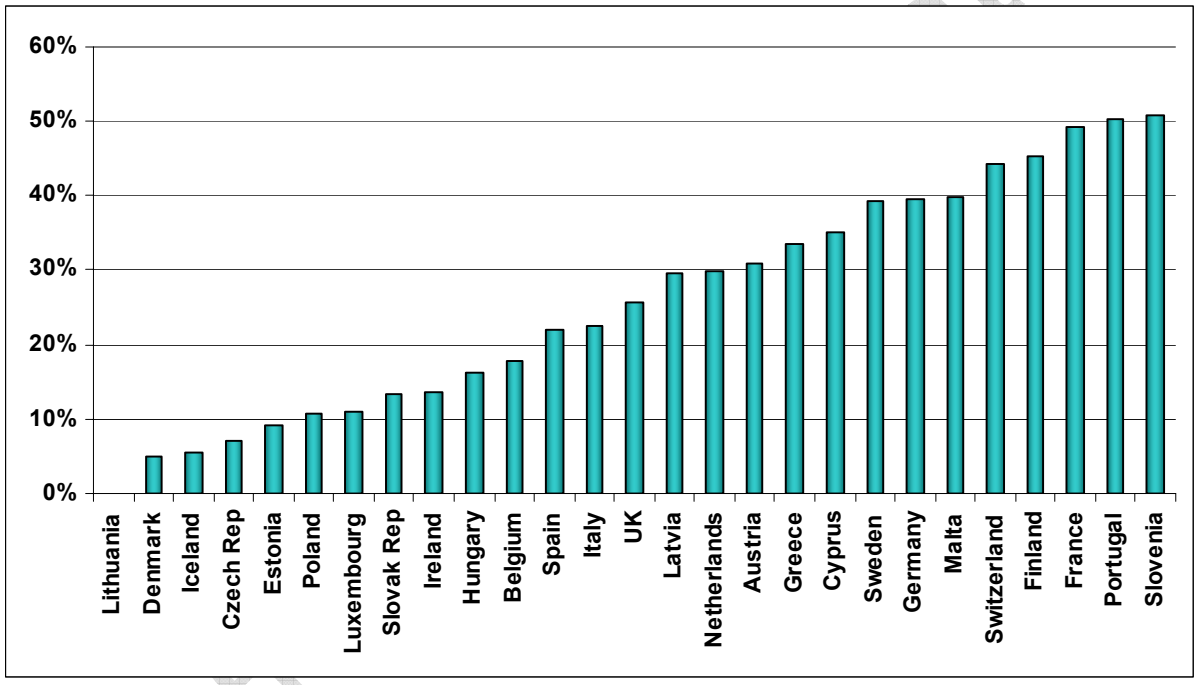


Figure 10: MTR decrease in % between January 2004 and January 2007, according to the benchmark published by the GRE[44]

It appears that there is a slight relation between the decrease in percentage of MTRs levels and the level in January 2004, as represented on the graph below, indicating that usually the countries with higher MTRs have reduced their levels more significantly.

[44] In Hungary since February 2007 the average MTR is 0,0986 euro/min Except for ERG data, all answers of NHH are in line with this new MTR. In Austria, the court of appeal annulled the decision which was in place at the time of the publication of the benchmark of January 2007. TKK took a new decision with retrospective effect (as well as for the future) on 15th October 2007: tariffs of Austria take that decision into account.

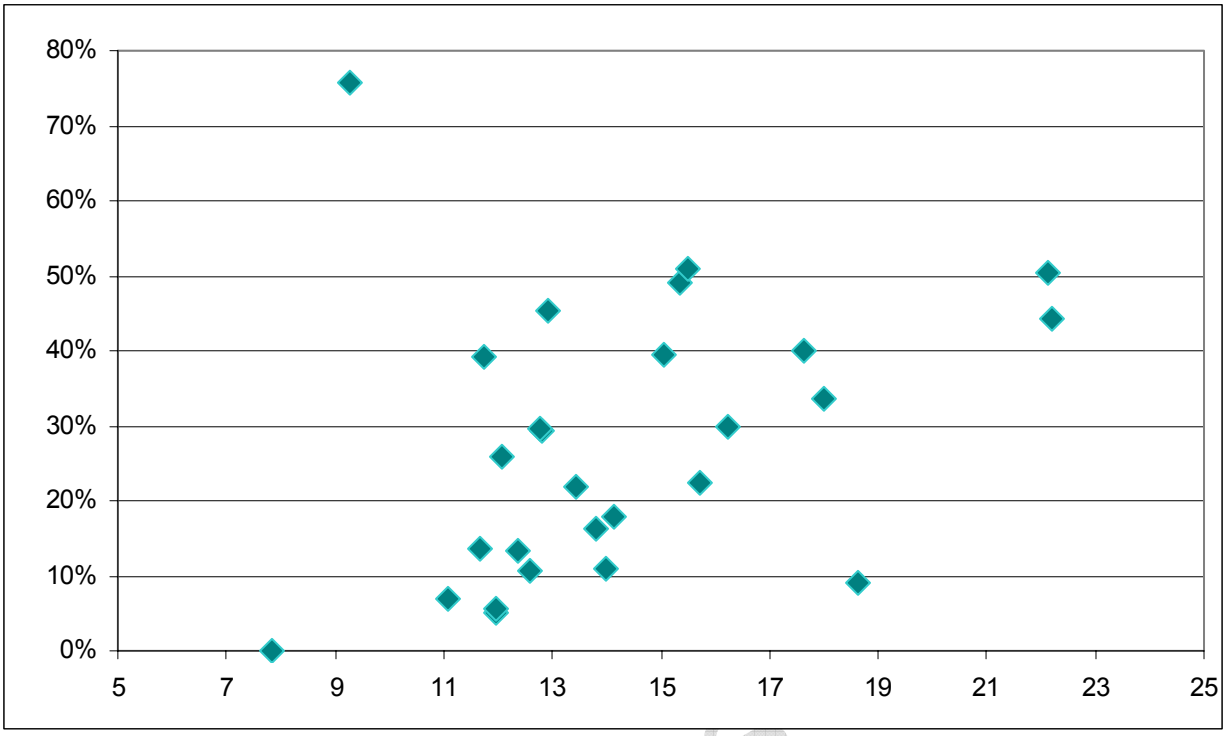


Figure 11: Decrease in percentage depending on MTR level of January 2004

In the past, it can be observed that the reduction of asymmetries (36 % in the sample of operators) has been faster than the reduction of levels (27 % for countries in both benchmark)[45].

…and a context of incentives given by the Commission to have symmetric rates

In many cases, the Commission indicated in different comments that "*termination rates should normally be symmetric and that asymmetry, acceptable in number of cases, requires an adequate justification.*" (Case BE/2006/0433, Case FR/2006/0461, Case FR/2007/0596, Case LV/2006/0464, Case LV/2007/0574).

Draft for Cons

[45] These two numbers are not stricly comparable as the first one is an average calculated by operators (for the 84 operators which are in the ERG benchmark on mobile termination market of both January 2004 and January 2007) as the second one is an average of average mobile termination rates for the countries in the ERG benchmarks on mobile termination market of both January 2004 and January 2007.

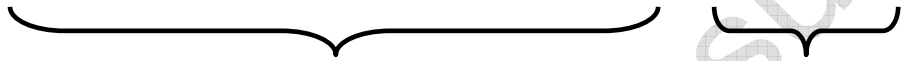
Positions of NRAs regarding the implementation of symmetric mobile termination rates

Implementation of symmetric MTRs…

MTRs symmetry between operators using exactly the same technology

Regarding symmetry for operators using exactly the same technology (either 2G only, 2G/3G or 3G only) with similar frequencies allocations, most NRAs indicate that they already apply symmetric rates.

Symmetry already applied	Symmetry planed to be introduced by the end of 2009	Official position for symmetry but not planned yet	Asymmetry will be maintained	No position yet on symmetry
11 NRAs	9 NRAs + 1 NRA by 2012	2 NRAs	1 NRA	7 NRAs



82 % of NRAs enforce or plan to enforce symmetry

3 % of NRAs do not (or cannot) plan to enforce symmetry

The answer was provided for operators currently on the market (answers do not apply for possible new entrants). Poland answered only regarding SMP-operators.

All NRAs having already a policy or a position on symmetry in that case support symmetry. Only Switzerland said that asymmetry will be maintained, because there is no ex ante regulation on market 16 in that country.

The 28 following NRAs answered to this question (2 NRAs are accounted for twice as they fall in two categories at the same time, for example indicating that symmetry is but with no position on symmetry yet):
Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain,, Switzerland, Turkey, UK.

Draft for Consultation

MTRs symmetry between 2G operators with different frequencies (e.g. 900 vs 1800)

Regarding symmetry for 2G operators with different frequencies allocations (typically 900 MHz versus 1800 MHz), there is also a trend towards symmetry, as 5 additional NRAs planed to introduce symmetry by the end of 2009.

Symmetry already applied	Symmetry planed to be introduced by the end of 2010	Official position for symmetry but not planned yet	Asymmetry will be maintained	No position yet on symmetry
0 NRAs	6 NRAs	2 NRAs	2 NRA	7 NRAs

47 % of NRAs enforce or plan to enforce symmetry

12 % of NRAs do not (or cannot) plan to enforce

The 17 following NRAs answered to this question (1 NRA is accounted for twice as due to a multiple answer):
Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Latvia, Lithuania, Malta, Netherlands, Romania, Spain, Sweden, Switzerland, Turkey, UK.

The 8 following NRAs indicated that this question is not applicable in their country: Estonia, Hungary, Iceland, Ireland, Italy, Lithuania, Portugal and Slovenia.

Comments by the Commission

The Commission has in several occasions stated that the difference in frequencies allocations (GSM900 compared to DCS1800) can be considered as an “objective cost difference which is outside the control of the operators concerned” (Case BE/2006/0433, Case FR/2006/0461, Case LV/2006/0464) , but it “expects the differences related to technology to be small”.

Draft for Consultation

MTRs symmetry between 2G and 3G only operators (e.g. between 2G only and 3G only MNOs, or between 2G & 3G and 3G only MNOs)

Regarding symmetry between 3G-only operators and 2G-only or 2G/3G operators, the following practices/positions are applied:

Symmetry already applied	Symmetry planed to be introduced by the end of 2008	Official position for symmetry but not planned yet	Asymmetry will be maintained	No position yet on symmetry
0 NRA	2 NRAs	1 NRA	0 NRA	4 NRAs

43 % of NRAs enforce or plan to enforce symmetry

It can be observed that the level of asymmetry allowed for 3G-only operators is still important, the possible reasons being that that 3G-only operators are new entrants and/ or have higher exogenous costs:

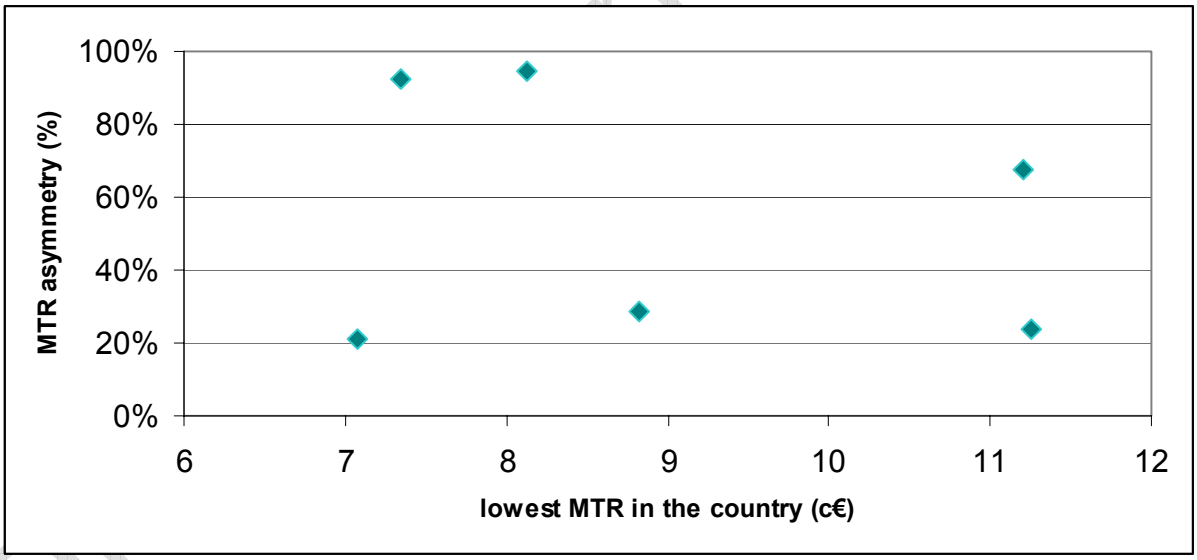


Figure 12: MTR asymmetry of 3G operators in % (compared to the operator with the lowest MTR) by operator related to the level of the lower MTR in the country (January 2007)

The 7 following NRAs answered to this question: Austria, Denmark, Estonia, Italy, Latvia, Sweden and UK.

Comments by the Commission

The Commission recognises that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned, such as different network topologies due to the use of specific frequency bands (Case IT/2007/0659).

… in a context of further decreases of termination rates

As for the future decisions, the table below summarizes decisions made in European countries for the main operators in each country.

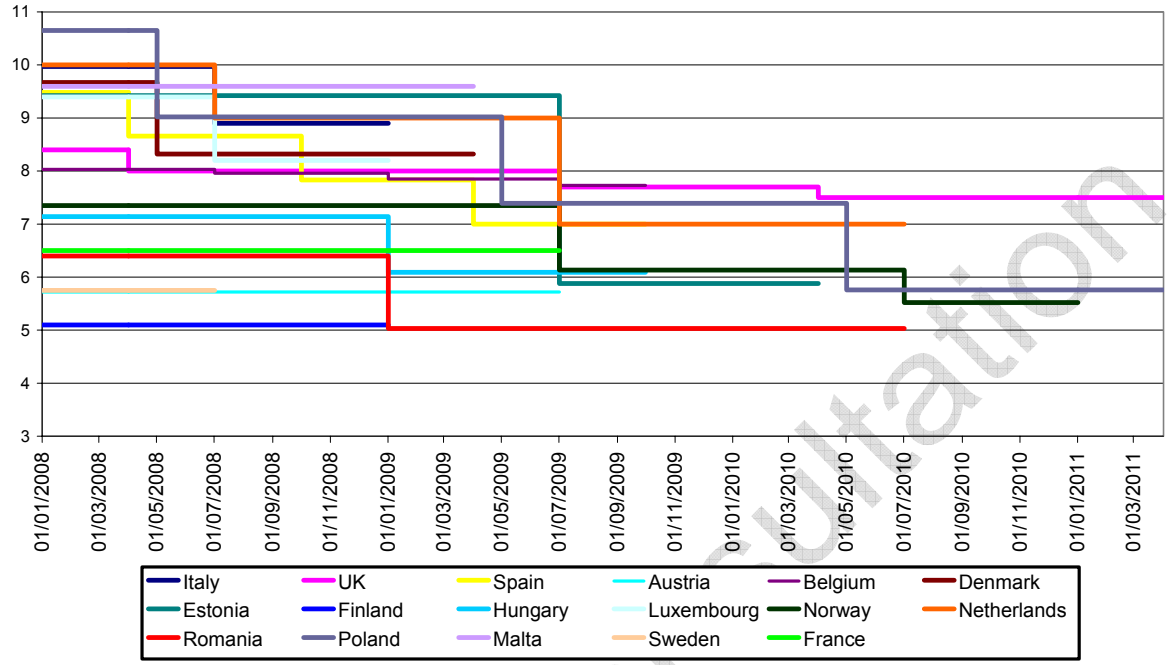


Figure 13: Price control (in c€) imposed on the main mobile operator for countries having announced levels from 2008

Further decreases of mobile termination rates are foreseen, even if it appears that different levels are used as target levels.

Draft for Consultation

3. Common position on MTR asymmetry / symmetry

Advantages of symmetry on a long-term basis

As stated in the introduction, in the long run symmetric mobile termination rates may contribute to enhancing static economic efficiency (limiting allocative and productive inefficiencies), investment, innovation, regulatory certainty, and, lastly, overall welfare.

Assuming that the market for mobile termination is competitive should lead to symmetric rates for MTRs, considered as homogeneous products (unless proven otherwise). In fact, in a perfectly competitive set-up, entrants are price-takers and therefore face strong incentive to reduce their costs to the efficient level.

In order to determine whether applying symmetry or asymmetry is the proportionate way for regulating termination rates, objective of regulation as set out in Article 8 of the Framework Directive ('FD') should be clear. Article 8 (2) FD requires NRAs to promote competition by among other things ensuring that all users derive maximum benefit in terms of choice, price, and quality, and that there is no distortion or restriction of competition in the electronic communications sector. In relation to these obligations, NRAs could therefore consider whether MTRs contribute to providing efficient price signals to consumers and avoid creating regulatory distortions in related markets. NRAs should also take account of minimization of regulatory costs and regulatory uncertainty.

In this respect, the objective of regulation should be kept in mind examining the different reasons to allow asymmetric rates, and more specifically the different cost drivers summarized on the chart below:

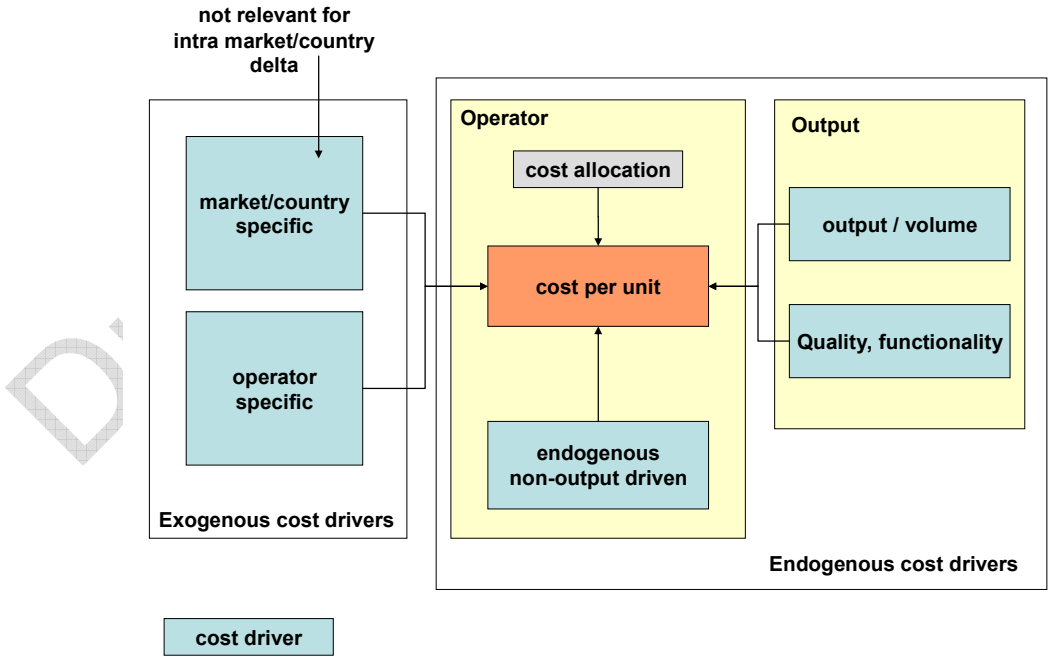


Figure 14: Different cost drivers

Allowing asymmetric termination rates differences over a too long period of time can lead to inefficiencies and be detrimental to competition and welfare. For example, it will provide

limited incentives to cost minimization, distort price signals and high cost operators will be allowed to pass their inefficiencies on to consumers. In addition, it could provide MNOs with an unjustified advantage when competing against other MNOs, such as in retail mobile services.

Promotion of symmetry

Termination rates should normally be symmetric and asymmetry, acceptable in some cases, requires an adequate justification.

Advantages of asymmetry on a transitory basis

As stated in the economic introduction, under some circumstances asymmetric mobile termination rates may be justified for example to take into account differentiated conditions of spectrum allocation or to encourage the growth of a new entrant on the market, which suffers from a lack of scale due to late market entry where such promotion of competition is needed and justified. Indeed, asymmetric mobile termination rates allow higher expected profits in the short term and strengthen the relative competitive position of those MNOs permitted to charge higher MTRs, thereby leading to increased competition in the long term to the benefit of end users. In other words, in certain circumstances it may be appropriate for a regulator to allow asymmetric rates for a limited time period – where the positive effects for competitors benefiting from asymmetric MTRs more than offset the risk of competitive distortion, and trading off short-term inefficiency for long-term objectives (such as long term efficiency). In such circumstances, asymmetric MTRs, by encouraging entry, contribute to dynamic efficiency and favor infrastructure based competition. Whether it is appropriate to make such a trade off depends on a range of factors that differ between countries. For example, the benefits of promoting long-run competition may be greater where retail markets are relatively concentrated.

In any case, regulators should bear in mind that asymmetric regulation is sustainable only on a transitional period, because asymmetric regulation also can also result in a number of drawbacks, among which an increase of off-net tariffs of the incumbent operators, competitive distortion, lower incentives to invest and innovate, risk of inefficient entry, etc. Furthermore, when opting for such an entry-friendly policy, the regulator must be able to commit itself on a sunset clause (for transparency of the regulatory signal).

In addition to the potential justifications discussed in sections 3.3-3.5 below, temporary asymmetries reflecting the different start points for different operator's glide paths can also be legitimate. NRA's take a range of factors into account when specifying glide paths and, in certain circumstances, requiring gradual convergence from historically asymmetric MTRs may be appropriate. For example, the instantaneous removal of asymmetries in MTRs that had previously been permitted may (but not necessarily) unduly disrupt an MNO's operations or undermine regulatory certainty.

Draft for Consultation

Exception to symmetry justified by objective exogenous cost differences

Exogenous cost differences are an issue as far as deciding whether mobile termination rates should be symmetric or tend to symmetry over time.

Although there are nuances among NRAs that followed this approach, if mobile operators had control over all factors and decisions that influence their costs, in a hypothetical (perfectly) competitive market for a homogeneous product, all operators would charge the same price and moreover, over time, their costs will tend to be equal. This could justify setting identical MTRs for all mobile operators.

However, to the extent that some exogenous factors could prevent mobile operators from being able to adjust their costs to those of the most efficient operator, these cost differences could be reflected in differences in the regulated MTRs of various operators.

In the majority of European countries, mobile operators were licensed and entered sequentially and as a result they have often obtained the rights to different spectrum frequencies that support different technologies. This may mean that mobile operators with different spectrum endowments have different costs. As an example, operators having received only 1800 MHz frequencies for 2G may face higher coverage costs to cover the territory or to insure indoor coverage, than operators having rights to 900 MHz. The impact on deployment costs is closely related to geography and topography of each country.

Spectrum licensing processes can also account for exogenous cost differences. When licenses are sold at market price (usually through an auction), the fact that a frequency band is only suitable for a more expensive technology should be compensated by a lower market price for this license. Anyway, it should be noted that auction prices depends on number of factors and do not necessarily lead to a price reflecting accurately the cost of technology. Nevertheless, in that case, licences' prices cannot be considered as exogenous. However, when licenses aren't granted at market price, operators will incur exogenous cost differences. Given that these cost differences do not correspond to inefficiencies they can be taken account of when regulating tariffs. Such would be the case for an overwhelming majority of countries, for which historically, licensing process for 2G spectrum was not set up in a way that active players had initially acquired licenses at market price.

It must be stressed that in the case where mobile operators have access to different frequencies supporting different technologies, to the extent that this leads to differences in costs, the following action can be taken by the regulators:

- Spectrum differences can be evened out, e.g. by aligning the spectrum endowment of operators ;
- objective exogenous cost differences existing between operators can be reduced or removed (e.g. by introducing a market mechanism on spectrum such as secondary market).

Anyway, if a NRA regulates MTRs based on actual costs of operators, this difference should be taken into account as long as the operator incurs additional costs because of frequencies allocations if all operators did not acquire their licenses at market price.

Draft for consultation

If MTRs are regulated based on forward-looking costs, then the exogenous difference may need to be taken into account for as long as it persists. However, in a forward looking approach, exogenous cost differences due to different spectrum holdings may be eliminated if there is a fully functioning secondary spectrum market or if regulatory action aligns the spectrum endowment of operators (in a forward looking approach).

A possible way of actively reducing such asymmetries could be to request that NRAs which permit asymmetry on the basis of such cost differences commit themselves (in their remedies decisions for instance) to considering whether it is appropriate to promote actions such as the introduction of market mechanisms for spectrum or spectrum alignment, and to give some details on the timeframe of such actions.

Experiences of Germany and United Kingdom are provided in Annexe D.

Comments by Commission on different technologies

The Commission recognises that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned, such as different network topologies due to the use of specific frequency bands (Case IT/2007/0659).

Justification of asymmetry for a transitory period because of exogenous cost differences

When there are differences in costs that are due to exogenous factors, outside the control of operators, asymmetric rates that reflect the cost differences may be justified. At the moment, the only example, which is not related to a late entrance, identified by ERG is cost differences due to the spectrum licensing holdings however other examples of exogenous cost differences may also arise.

When the spectrum licensing process is not set up in a way that all active market players acquired their licenses at market price, usually through an auction, operators may face cost differences outside of their control. Assuming that these cost differences are properly evaluated, they may justify an asymmetry (national market conditions may justify to promote symmetry, even through objective cost differences still exist, or cost differences can be considered as too uncertain or limited to be taken into account).

The duration for which asymmetric rates may be justified depends on the following factors:

- differences in frequencies endowments and technologies could be reflected in different rates being set as long as they result in cost differences;

- as long as there is no fully functioning secondary spectrum market or until a regulatory action aligns the spectrum endowment of operators (in a forward looking approach)

In any case, as soon as possible, NRAs should consider whether it is appropriate to eliminate cost differences due to frequencies allocation either by aligning spectrum endowment of operators or by ensuring that licenses are acquired at market price, so that the asymmetry can be removed.

Draft for Consultation

Exception to symmetry for a significantly late entrant on a transitory base

Relation between entry delays (and market shares) and MTR asymmetries

First, before exploring the pros and cons of allowing asymmetric MTRs for significantly late entrants, this paper explores the current situation, analysing the link between the degree of MTR asymmetry and entrants' market shares and entry delay as of January 2007.

The consequences of differences in entry date, which are in most cases outside the control of the operators, is more objective than the market share and, under certain circumstances, may justify asymmetries on a transitory basis. Indeed, it is possible to observe differences in market shares between two operators even if there are no differences in market entry date. In such cases, other factors, which are endogenous (i.e. within the control of MNOs), can explain these market share differences, for example because of differences in their efficiencies in running their network and business in general.

What we observe is that there is not a strong consistency throughout Europe regarding MTR asymmetry, which is granted on the basis of entry delay. Indeed, the range of asymmetry granted (in %, compared to the lowest MTRs in the country) on the basis of similar time of market entry varies significantly between countries.

In average, MTRs of operators having between 3 and 5 years of entry delay are 17% higher than the lowest MTR in their country, and MTRs of operators having between 6 and 11 years of entry delay are 35% higher than the lowest MTR in their country.

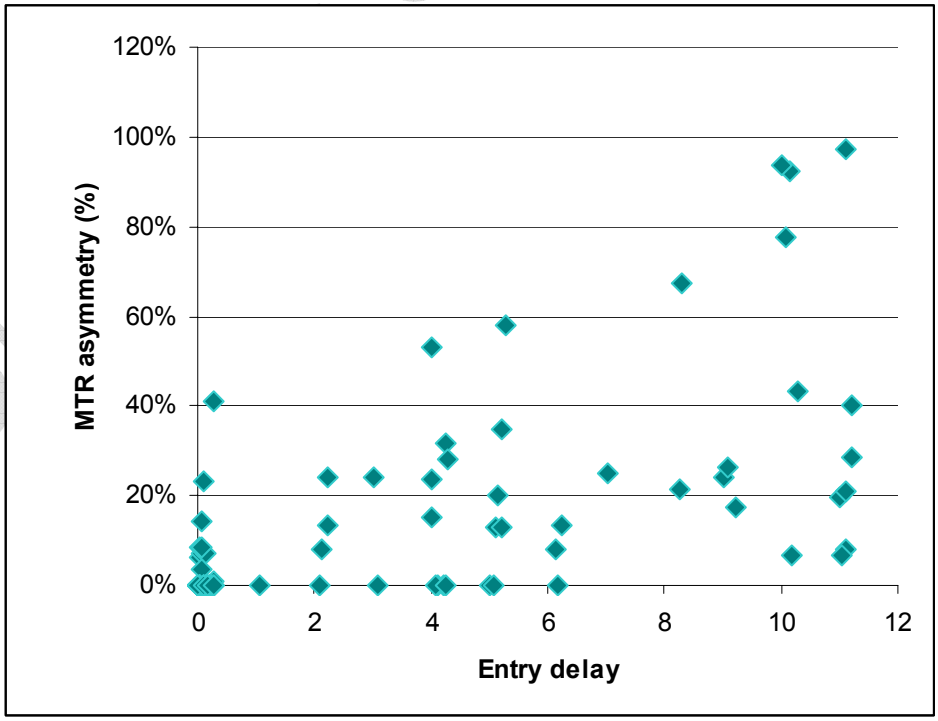


Figure 15: MTR asymmetry in % (compared to the operator with the lowest MTR) related to delay of entry on the market (compared to the first operator entering on the market

Draft for Consultation

Taking into account market shares is less straightforward, as this factor is not entirely outside of the control of operators: they can increase more or less rapidly their scale by competing more or less fiercely. Nevertheless, as an efficient late entrant needs time to acquire a significant market share, and given that economies of scale are directly related to market shares, this factor should be examined.

According to the MTR benchmark dated from January 2007, operators with a market share below 10 % have, in average, a termination rate level higher than the lowest MTR in their country of 47 %. Considering operators having between 10 and 20 % of market share, the termination rate level is in average 13 % higher than the lowest MTR in their country.

It appears that an asymmetry towards operators with a very small market share is a widespread phenomenon in Europe, even if there are major discrepancies in the actual levels attained.

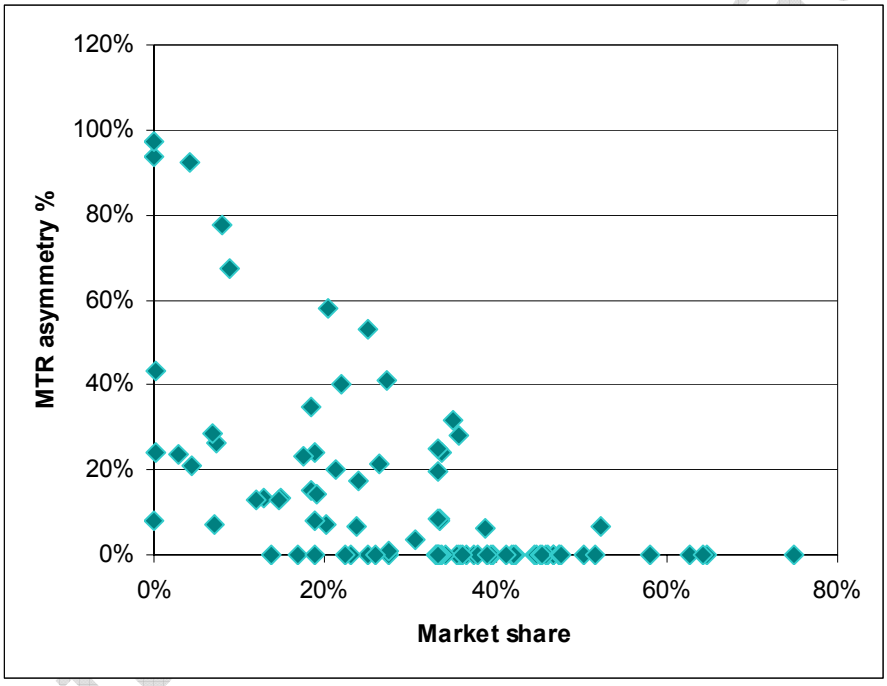


Figure 16: MTR asymmetry in % (compared to the operator with the lowest MTR) by operator related to market share

In conclusion, there is a clear relation between asymmetry and entry delay / market shares, even if practices differ in Europe for:

- level of the asymmetry
- period to maintain the asymmetry (in the case of entry delay)
- market shares to maintain asymmetry (in the case of market shares)

Comments by Commission on market shares and entry dates

In its comments, the Commission explains that "*the fact that an MNO entered the market later and has therefore a smaller market share can only justify higher termination rates for a limited transitory period. The persistence of higher termination rate would not be justified after a period long enough for the operator to adapt to market conditions and become*

efficient and could even discourage smaller operators from seeking to expand their market share." (Case BE/2006/0433, Case FR/2006/0461)

Asymmetry for a significantly late entrant

In this part, we do not deal with MTR asymmetries justified by different technologies and frequencies, as they are covered in the previous section.

This paper does not cover the valuation of MTRs, and figures and reasoning provided may depend on a specific choice of depreciation. In particular, some NRAs have developed economic tools such as economic depreciation, which, combined with traffic forecasts, reduces the impact of year-on-year variations over time due to changing asset utilisation. As a result, the fact that a new entrant has a small scale at the beginning of its activity does not imply that the unit cost of termination rates for this operator is necessarily very high. In addition, unit costs of a late entrant may be affected by different costs of capital depending of the economic depreciation which is used.

As stated in the section 0, an entrant-specific asymmetry in MTRs must reflect exogenous cost differences of the late entrant, so that it promotes efficiency and it does not lead to competitive distortions.

Putting aside the fixed costs incurred by any given operator, a recent MNO cannot from the start have a comparable customer base to his existing counterparts. Assuming that using the same technology and the same spectrum over the same geographical area, fixed costs of all operators should be (or, for the reason of efficiency or similar regulatory coverage requirements, must be) equal or very close to equal. However, in the short run, the new coming MNO does not benefit from comparable economies of scale and efficiency since it is has fewer customers. As a result, NRAs may observe that the late entrant incurs a higher per unit cost for all services (including termination) than its competitors (if costs are allocated across lifetime volumes then this effect will potentially be more limited).

In order to acquire a significant market share after a certain period of time, MNOs must benefit from the economies of scale, increase their market share, and their traffic volume. This seems to be the key factor for a MNO in order to enhance efficiency. When recent entrants have higher unit costs, it can be appropriate to allow them to benefit from asymmetric MTRs, which allow them to recover higher termination costs. This is recognized by the majority of NRAs, who mostly allow such initial asymmetries.

Nevertheless, NRAs should avoid allowing differences in MTRs that do not only cover higher per unit costs faced by the newcomer for termination but also subsidise retail services, since MNOs compete on retail not on wholesale market. Indeed, such practice could act as a disincentive for efficiency gains and could furthermore distort retail competition among operators.

The presumption that each operator must gain scale after a certain period of time leads us to ask ourselves three issues:

- The relationship between economies of scale and efficiency

Draft for Consultation

- What is the cost of a new MNO during the "starting or transition period" and which is the highest mobile termination tariff acceptable?
- When must a new MNO become efficient regardless of economy of scale gained, in other words, when does the "starting or transition period" end?

Relationship between economies of scale and efficiency

Assuming that an efficient MNO does optimally exploit its technologies and spectrum, the comparison of static efficiency/inefficiency by using per unit cost is possible only when the economic conditions are the same for all companies. In other words, it is relevant if the source of a new operator's higher per unit costs is such an operator's low initial volumes meaning that it does not benefit from economies of scale to the same extent as its competitors, as represented on the graph below

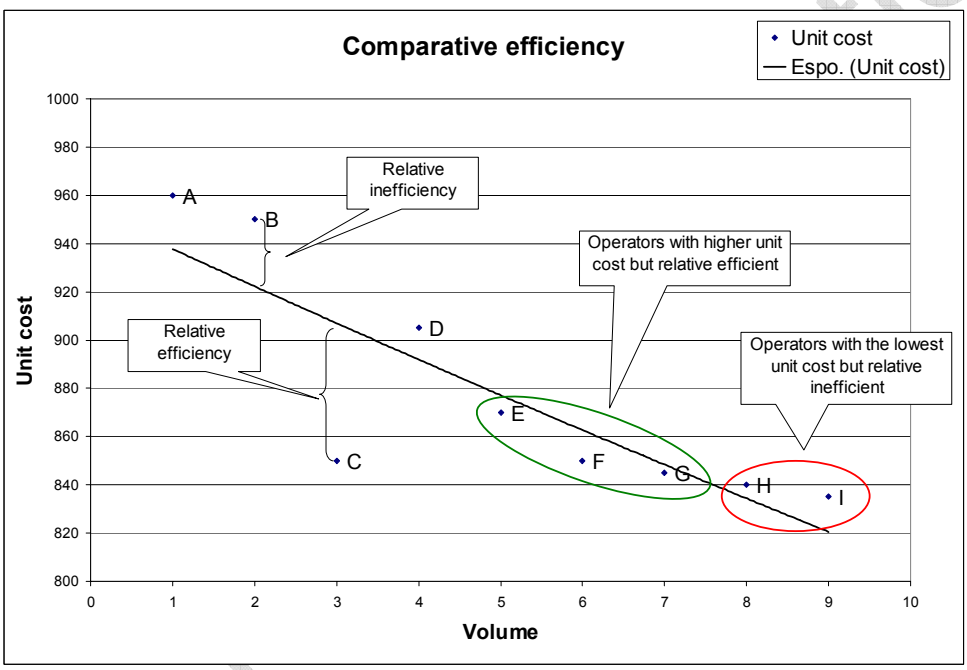


Figure 17: Comparative efficiency for industry with economies of scale

On the other hand, following a dynamic approach, an efficient MNO tends also to optimally diminish its per unit costs with sufficient economies of scale and scope (market share, traffic volumes, diversity of services, overall economical behaviour, etc).

Several LRIC models that have been or are being implemented do therefore use the costs of a hypothetical MNO, which is usually defined with the equally distributed market share[46]. Indeed an existing MNO with the lowest MTR calculated does not necessarily represent the most efficient MNO. Calculating cost for mobile termination on the basis of a hypothetical operator however is one possible approach that provides a balance between scale (dis-) economies and productive (in-)efficiency.

By that, we can conclude that being efficient in call termination ultimately means having relevant costs covered by charging MTR equivalent to that of an efficient MNO, assuming of course that costs covered are equivalent to those of the efficient MNO used to calculate the

[46] If n is the number of operators, the market share of the hypothetical operator is then 1/n

target MTR. Efficiency of all MNOs results ultimately in symmetric MTRs, so late entrants need to gain economies of scale to lower their costs.

A late entrant will not, in its early stages of operation, have an equal market share to incumbents and will need to increase its economies of scale and scope. Consequently, this late entrant may face higher unit costs (depending on the method used by NRAs for cost recovery) than the costs of the hypothetical efficient operator during a transitory period. During such a period, an asymmetry can be allowed on a transitory basis without unduly promoting inefficiency, although the extent to which this might be appropriate will depend on the path of cost recovery that is used

What is the cost of the new MNO during the "starting period" and which is the highest tariff acceptable?

Data gathered by NRAs shows that there are wide differences in setting the MTR for a late entrant. The evaluation of additional costs depends on costing methodologies followed by NRAs.

However, it may not be reasonable to initially set a cost-based tariff as the asymmetry (especially for the first year) would be too large, depending on the impact of the low economies of scale on unit costs. The impact on interconnected operators could be damaging. As shown below (simulation using the Romanian model[47]), setting tariffs at cost would lead to an "unreasonable" tariff during the starting period.

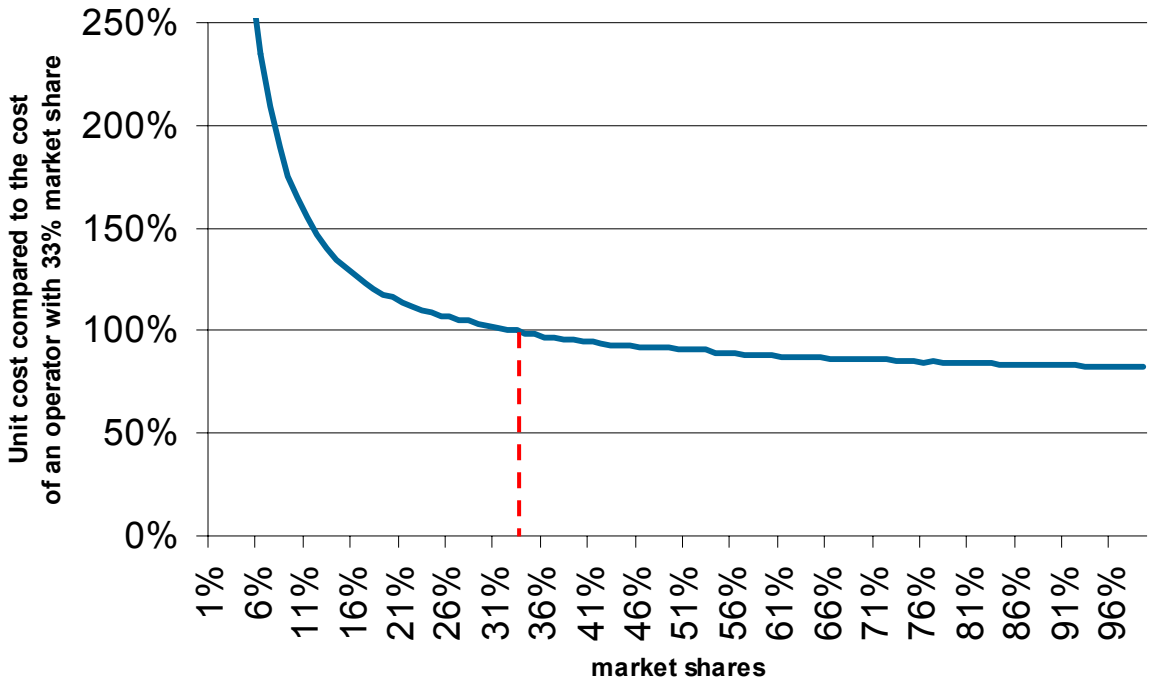


Figure 18: Relation between market share and unit MTR costs (in c€/min) according to the Romanian model by ANRC

[47] Model available at: http://www.anrc.ro/DesktopModules/Interogation/DownloadFile.aspx?intSurveyID=1139&intSurveyFilledInstancesID=340120

The guidance, when a cost-based approach appears as "unreasonable", would therefore be to set a "reasonable" price, and NRAs should specify their understanding of "unreasonable", as the lack of predictability is harmful for the market – for sellers as well as buyers of termination. Indeed, if pricing of call termination (or at least the level of asymmetry) is predictable enough, existing MNOs know what they can expect in terms of MTRs in case of a new entrant, and also new MNO would have more evident expectations when undertaking market entry.

These problems would be reduced if we assume that there would be an appropriate "reasonable" asymmetry rate defined before (or at) the entry on the market. The question is, however, how to determine the level of asymmetry, which will play the role of entry assistance for the late entrant without having significant disadvantageous influence on other market players, and ultimately end-users.

First, it must be highlighted that a too high level of asymmetry can be damaging for the new entrant, even if the short term effect on its financial balance is positive. Wholesale prices MNOs are paying to terminate each other's calls, when very high, are reflected in higher retail prices of outgoing calls from other operators towards the new operator, so the new operator might be perceived as an expensive operator. The new MNO will therefore have less incoming traffic and less customers to its network. This may disable new MNO from achieving certain level of efficiency during some time.

The advantages of allowing a recent entrant to recover its efficiently incurred costs should be kept in mind, along with the potential negative side effects of an "unreasonable" asymmetry, as discussed. This initial level should be accompanied by a glide path towards symmetry

When the initial MTR cannot be set in strict relation with per unit cost incurred by the new entrant (because it leads to "unreasonable" rates), the imposition of a "reasonable" upper limit to the MTR of a new entrant can be simplified by the following equation where γ_i is the initial asymmetry factor:

$$MTR_{NEW\_MNO\ i} = MTR_{INCUMBENT\_MNO} \times \gamma_i$$

As an example, a reasonable γ_i can be set at 1,5 because of entry delay, because one can see that even in cases of the highest asymmetries in the Member States current γ hardly exceeds 1,5: among the 98 operators in the ERG MTR benchmark from January 2007, only 7 have an asymmetry above 50%.

Anyway, the initial asymmetry must be analysed regarding national specificities such as the potential additional costs faced by the late entrant, the entry delay, the impact of such asymmetry, the competition (including the number of MNOs)… The NRA should verify whether entry assistance in the early phases is more likely to generate benefits (higher degree of competition in the future) and that these benefits are sufficient to outweigh the costs imposed on consumers in the form of distorted price signals.

NRAs should impose a maximum price. If the new MNO chooses to voluntarily charge prices below this amount, it should be allowed to do so. As already mentioned, the new MNO will have to gain enough scale during the transitory period towards symmetry.

Draft for Consultation

The glide path during this time must enable new MNO to gain economies of scale (market share, traffic volume) but on the other hand to look for its own efficiency from the beginning. This would incentivise the late entrant to lower its costs as much and as quick as possible but still allow it to enjoy the benefit of higher MTR. Asymmetry (γ) will persistently decrease to the final level 1 (corresponding to symmetry).

When new MNO must become efficient regardless of economy of scale gained, in other words, when does the "starting or transition period" end?

The transitory period to set a glide path should be determined taking into account the capacity of the late entrant to reach the cost level of an efficient operator (with, among other factors, an "efficient" market share"). Factors which may be relevant to the length of this period include:

- The date of entry
- The maturity of the market: it is easier for a late entrant to acquire a significant market share in a growing market than in an already highly-penetrated market
- The fluidity of the market and the churn rate[48] if the mobile market suffers from high switching costs, such as non-effective number portability, hard process to terminate a mobile post-paid contract, long minimum duration of contract or SIM-locking of handsets, then the churn is lower and consequently a late entrant will have higher difficulties to acquire a significant market shares. The network effects by existing operators can also impact the fluidity of the market: if existing operators created strong networks effects within their customers, by example offering very low-price or free calls between their users, a late entrant may have more difficulties attracting customers from other networks.
- An efficient rate of customer acquisition (for example, in a market with n players, it might be assumed that each "efficient" player attract 1/n of customers subscribing to a new contract)
- The level of competition in the market (the number of players)

As an example, in a mature market[49] with 3 operators and 1 new entrant, and a churn of 30 %[50], if the 4th operator acquires 25% (the same proportion as its competitors) of customers who change of operators, its market share would be:

	0 years	1 year	2 years	3 years	4 years	5 years	6 years
Market share	0%	8%	13%	16%	19%	21%	22%

in the sense that we use the churn rate as a proxy for "available customers".

Besides regulatory work and conditions that NRAs must take care of, MNO must also be aware of his share of responsibility and usual risk for success on the market. Other relevant evidence might include historic data on changes in operators' market shares (i.e. the performance of previous entrants) and forecasts of operators' market shares that have been produced by market analysts or the operators themselves.

[48] The churn rate can be a good proxy. However the churn rate is both endogenous and exogenous and depends among other things also on the efficiency/performance of new operators.
[49] Hypothesis of 0% for market growth
[50] Hypothesis of 30% of existing customers switching from their operators to a different one.

Draft for Consultation

The resulting assumption on market shares of the late entrant can be used to decide the length of the transitory period. In the previous example, assuming that such market shares lead to similar costs at the end of the 5th year (this is only an assumption), then the transitory period could last 5 years.

Then a glidepath should be set to decrease the asymmetry during the transitory period. Two solutions can be suggested:

- a linear reduction of γ_i, with the previous example (from 50%):

	1st year	2d year	3d year	4th year	5th year	6th year
Asymmetry	50%	40%	30%	20%	10%	0%

- a time profile for the asymmetry reduction, which is either "reasonable" or based on cost references if they are not "unreasonable".

Justification of asymmetry for a transitory period for a late entrant to take into account its lower economies of scale:

The fact that an MNO entered the market later can justify an asymmetry for a transitory period.

The advantages of allowing a recent entrant to recover its efficiently incurred costs should be kept in mind, along with the potential negative side effects of an "unreasonable" asymmetry. When the initial MTR cannot be set in strict relation with per unit cost efficiently incurred by the late entrant (because it leads to "unreasonable" rates), the imposition of a "reasonable" upper limit should be favoured.

This initial level should be accompanied by a glide path towards symmetry.

National factors that may be relevant to the length of this transition period include:
- The maturity of the market
- The fluidity of the market
- The level of competition in the market

The following profiles of glidepaths can be used:
- a linear reduction of asymmetries (good solution if the NRA does not use a bottom-up model)
- a reduction taking into account the amplitude of the additional costs faced by the late entrant

Draft for Consultation

Exception to symmetry during the transitory period before MTRs are at costs

During the last years, we observed significant reductions of MTRs level in Europe, but despite these decreases, many NRAs did not reach the real cost level yet. As is well established, MTRs should be set at costs in the long term, and indeed symmetrically across operators in the long term (notwithstanding the considerations of this paper). Where MTRs of incumbents/entrants are not yet regulated to cost, competitive distortions may appear, some potentially at the expense of the smaller operator.

The following exception to symmetry is not an assistance to take into account an entry delay, rather this is a compensation to take into account the delay to implement the cost orientation, and particularly the consequent competitive adverse effect of above-cost MTRs on small operators. In particular, in the transitional period before MTRs are regulated at cost, this may create a situation whereby smaller operators are unduly competitively disadvantaged. This disadvantage could arise where certain retail price structures – on-net/off-net price differentials – that may result from high MTRs create a net outflow of traffic for smaller operators. This mechanism and the associated assumptions and competitive implications are explained further below.

In other words, this section of the common position does not apply when MTRs **(particularly of the larger operators)** are set at costs, which is the first best solution to address these issues. In addition, for reasons explained below, these considerations also do not apply when there is no significant imbalance of traffic between operators.

Rationale behind off-net/on-net price differentiation

A differential between the retail price of on-net and off-net calls (namely where the retail price of the former is below the latter) is an observed feature of some European markets. Offers promoting on-net calls through lower prices enable MNOs to optimize their financial balance. Indeed, on-net offers leads to costs corresponding to the additional capacity which will be necessary to carry the extra-traffic generated by the offers. On the other hand, off-net offers leads to direct payments corresponding to mobile termination rates paid to others MNOs (competitors) to terminate calls on their networks (in addition of costs due to call origination on the operator's own network).

As long as the internal cost signal for on-net costs is below the external cost signal for off net calls (the latter being equal to the mobile termination rate plus the cost due to call origination), there is an incentive for any MNOs to promote on-net offers, whatever its market share is. The incentive is stronger to the extent that MTRs are significantly above costs.

Impact of off-net/on-net price differentiation for the smaller operator: the network effect

The attractiveness of on-net offers depends on both the structure of retail prices and the factors which consumers take into account when deciding which network to subscribe to. For example, where customers do not know which network the people they call the most are on, or where those call recipients are evenly spread across networks, the attractiveness of on-net offers depends on the market shares of operators. Depending on the structure of retail prices,

Draft for Consultation

this can lead to a network effect by which the membership of a large network is more attractive to customers.

Large operators can strengthen the related network effect they benefit from (and the attractiveness of their on-net offers) via two means:

- The first one is related to originating calls: when a customer makes a call to someone that is subscriber of the larger network (which happens with higher probability, depending on how that customer's calling circle is distributed across different networks), he will pay the on-net price if he is also subscriber of that network, or will pay an off-net price if he is subscriber of the smaller network. All else equal, his decision would then more often be to join the larger network, because the average or expected price is lower.
- The second one is related to the incoming calls, and exists because customers can be assumed to derive some utility from receiving calls. If a larger network charges a high off-net price, then customers are less willing to make calls to the other network than otherwise. Therefore, the value of a customer belonging to the smaller network is reduced, because he will be concerned that less people would call him.

In summary, an on-net/off-net retail price differential, combined with significantly above-cost MTRs, can, in certain circumstances, tone down competition to the benefit of larger networks.

An unequal battle for smaller operators?

The magnitude of any impact on competition stemming from the network effects described above is likely to depend on number of issues and is likely to vary between countries. These issues include the relative size of different networks' customer base, the factors that customers take into account when selecting a network, the extent to which the numbers that a customer calls the most tend to be clustered on particular networks, the structure of retail prices and the magnitude of any difference between on- and off-net retail prices.

In some European markets, larger operators do often take advantage of the difference between internal and external cost signals (respectively for on-net and off-net calls) to charge very different prices for on-net and off-net calls, by offering:

- a lower price towards any number of their own network[51]
- a lower price towards a few numbers of their own network[52]
- unlimited calls toward a few numbers of their own network[53]

These offers can induce a market situation where small operators have difficulties in attracting customers towards their networks, in particular in saturated markets (which is currently the case in European markets)

Such retail pricing structures alone are not necessarily a competition problem, and its prevalence and nature varies between member states. This potential competition issue is, however, compounded when MTRs (charged by large networks) are significantly above costs really due to terminate calls. The extreme situation can appear when on-net prices are lower than MTR tariffs. As discussed, these considerations highlight the importance of setting MTRs at cost. In the interim period, it is recognised that the small operators, among other

[51] In countries such as Spain, Portugal, Italy...
[52] In Italy, Portugal, … operators offer lower price towards a few numbers belong to their network
[53] In France, the two biggest MNOs offer automatically unlimited calls towards 3 or 5 numbers of their customers with their post-paid offers.

Draft for consultation

strategies, can try to overcome the network effect by decreasing its off-net price – so that customers can compare it with the on-net price of the larger network – it then faces the problem that it has to pay to terminate such a call a high wholesale price -the MTR-, whereas it only receives a quite low retail price. If the MTR is above the retail price (equal to the on-net price of the larger network), then the smaller operator may in the limit be forced to incur a loss on its off-net calls, if it wants to be competitive.

Creation of unbalanced traffic and interconnection payments at the expense of smaller operators

These strategic interactions can potentially have a main effect on the balance of interconnection traffic between operators. Consider, for simplification, that there are two operators, one large (A) and one small (B). If on-net price of A is lower than its off-net price, customers are most likely to be attracted to network A because of the effects mentioned above.

Assuming that the price structure of the two networks is the same, this does not necessarily cause traffic imbalance. For example, consider the very simplified case where A has 2 customers and B has 1 customer and each customer calls every other customer once. The result is shown in the table below. Customers have different calling patterns but this is offset by the difference in number of customers, so that traffic between the two networks is balanced.

Network	No. of customers	No. of off-net calls	No. of on-net calls
A	2	2	2
B	1	2	0

Now consider that B decreases its off-net price so that it can compete with the on-net price of A. We have then a situation (that we observe in a number of European countries) where off-net price of B is much lower that the off-net price of A. It is then normal to expect that people would call more from B to A than from A to B. This may create a material imbalance of traffic between A and B in favour of the larger network.

If we consider a situation where the MTRs of A and B are the same and significantly above costs, then the excess profits (above costs) that B earns from charging this MTR to A do not compensate the excess (above cost) MTR payments that B must make to operator A.

As a result, in this situation, the larger operators not only can benefit from larger scale economies and network effects, but also receive a net income from its direct competitors through interconnection payments. When the MTR level exceeds costs incurred to terminate a call (which are costs linked to the additional capacity required to carry the extra-traffic incoming from the smaller operator), the situation can be detrimental for the smaller operator, as it gives money to the bigger operator allowing it to finance its investments for example in customer acquisition, quality of service or innovation. Thus traffic imbalance, when caused by on-net/off-net retail price differentiation, in combination with MTRs significantly above costs, can give rise to net outpayments made by smaller operators to larger operators. It should be recognised, however, that traffic imbalances per se are not necessarily a problem to be corrected.

Draft for Consultation

Imposition of asymmetry on a transitory base

The situation described above again emphasises that MTRs should be set at cost, since retail price on-net/off-net differentials may not be observed where MTRs are at cost. In this respect, NRAs should consider whether the observed on-net/off-net differentials are indeed caused by high and asymmetric MTRs. Notwithstanding this consideration, this section considers whether an asymmetric MTR in favour of the smaller operator may be able to compensate the distortion created by a level of MTRs (for the biggest operators) which is not a cost level. In other words, we consider whether an asymmetric MTR for the smaller operators should be allowed in order to ameliorate the problem identified above. A perceived advantage from adopting such asymmetric MTR rates is that it may ultimately help to improve competitive conditions on retail markets by softening the potential adverse effects on the small operator arising during the transitional period where MTRs are still above cost.

As with any regulatory measure, whilst these are potential benefits, the potential downsides should also be recognized by NRAs. That is, as always in regulatory decisions, there is a trade-off to be made. In this context, the potential downsides could include higher prices to consumers, especially where the higher MTRs of the smaller operators result in higher retail prices for calls to those operators from larger MNOs and FNOs.

Clearly, the specific of such a trade-off depends on a range of factors that differ between countries. For example, whether there is a competitive disadvantage for smaller operators, and if so, the benefits of addressing this competitive disadvantage, may be greater in a relatively concentrated retail market and/or where there are strong network effects.

A more fundamental potential drawback of applying MTR asymmetry to solve this competitive problem that should be taken into account by NRAs is that it might encourage larger operators to further increase their on-net/off-net differentiations. As noted above, part of the problem results from the high off-net price charged by the larger operator. If the MTR of the smaller operator is higher as a result of this measure, then the larger operator in response has a justification to increase its off-net price (relative to on-net) by the amount of the difference between its own MTR and the MTR of the small operator. This effect may contribute to increase the network effect, which is contrary to what is intended. On the other hand, it should be noted that, if this is the case, the small operator has always the possibility of decreasing its own MTR if it reaches the conclusion that the high level goes against its own interest.

When considering whether it is justifiable to apply the asymmetric MTR it is also important to consider whether all the other remedies available in the current framework were already used, and the problem still remains. Moreover, NRAs should make sure that Competition law alone is not able to address these issues efficiently and quickly enough. NRAs should also carefully consider the source of any traffic imbalance. Moreover, as discussed, a traffic imbalance per se is not necessarily a problem to be addressed.

Assuming that the absolute MTR level is significantly above costs in the circumstances described above, to address the dynamic competition issues in markets where there are high traffic imbalances and thus important interconnection financial imbalances, transitory asymmetric treatment of MTR might be the best option available to NRAs under the current regulatory framework. This remedy may benefit consumers in the long run, by increasing the competitive dynamics of the mobile markets.

Draft for Consultation

Comments of the Commission

The Commission "*notes that ARCEP justifies asymmetric MTRs for Bouygues with traffic imbalances and significant net payments of Bouygues to the two other operators. However, such traffic imbalances may in fact be caused by the current asymmetric level of MTRs as well as by an on-net/off-net retail price differentiation that is within the control of the operators. For this reason, the Commission stresses the importance of reducing MTRs to the level of costs of an efficient operator which takes into account objective cost differences as defined above.*

In view of the need to ensure that asymmetries are phased out over time unless objective justifications persist, the Commission notes the transitional nature of the draft measure and the acknowledgement by ARCEP that the different factors presently justifying asymmetry may no longer apply in the future. The Commission further notes that ARCEP makes this move towards symmetric MTRs also dependent on the outcome of harmonisation activities at European level. In this respect, the Commission recalls its earlier comments on the need for a coherent European approach (made in Case BE/2007/0665) in order to ensure that the MTRs of each MNO are brought down to the cost of an efficient operator as soon as possible."(Case FR/2007/0669)"

Justification of asymmetry for a transitory period before MTRs are at a cost level

Depending on national specificities such as the relative size of different networks' customer base, the structure of retail prices, the factors that customers take into account when selecting a network, a transitory asymmetry in favour of the smaller operator(s) may be applied under the following cumulative circumstances:

- There are high traffic imbalances and thus important interconnection financial imbalances, as a result of operators' strategies (high differentials between on-net price and off-net price)
- MTRs tariffs are significantly above MTR costs
- Where the NRA considers that there are benefits of setting transitory asymmetric termination rates (such as potential increases in retail competition) and that these outweigh any short term disadvantages of doing so

Therefore, this asymmetry will not be justifiable anymore if one of the following conditions is observed:
- The situation with traffic imbalances disappears or they do not result of operators' strategies
- MTR of the large operator(s) is not set significantly above costs

The level of asymmetry could be evaluated considering factors such as:
- Whether or how much the traffic would be unbalanced if the smaller operator wanted to offer a comparable price to the biggest operator
- how far MTRs are above costs
- the advantages and disadvantages associated with that level of asymmetry

NRAs should also be careful that this measure does not exacerbate the problem of on-net/off-net offers through a too large MTR differential between the large and the small operator(s).

Draft for Consultation

NRAs using this common position should first verify:
- Can MTRs be set at costs? This solution is the first best and should consequently be favoured.
- Can Competition law alone address these issues efficiently and quickly enough, ensuring that both internal and external non-discrimination are enforced? If that's the case, it is not required for the NRA to solve this problem through an asymmetry.
- What is the impact of such asymmetry, e.g. on price signals to consumers?

Draft for Consultation

Perspectives

This paper considered asymmetry / symmetry of fixed and mobile termination rates between mobile networks operators within one country.

But the scope of this work has excluded another question which is the current asymmetry between fixed and mobile terminating tariffs. This asymmetry is very large in all countries (mobile terminating tariffs are in general more than 10 times as high as fixed terminating) and it could be relevant to analyze to what extent arguments developed for symmetry between MTR of all countries could not be applicable for symmetry between MTR and FTR. Whilst at a very preliminary stage, and beyond the scope this document, possible questions to examine in such a project would be whether this large asymmetry between MTR and FTR is explained through cost differences or whether it can partly explained through different practices for mobile and fixed regulation, especially regarding costing methodologies. The relative importance of these two effects requires further study, however one plausible conclusion (amongst others) is that a harmonization of these methodologies between MT regulation and FT regulation could potentially induce a reduction of the existing asymmetry such that the remaining gap is justified by cost differences, leading to positive effects on competition between telecoms players, and ultimately on end-users.

Draft for Consultation

Annex A: Comments by European Commission regarding asymmetries of MTRs

In the frame of Article 7 procedures, the European Commission has in several cases invited NRAs to make termination rates asymmetry disappear and to specify, meanwhile, the convergence conditions towards termination rates symmetry, with regard to both target level and time frame. The Commission considers indeed that that the termination rates should normally be symmetric and that asymmetry requires an adequate justification. All the comments of symmetry/asymmetry by the European Commission in market 16 (mobile call termination) are collected below.

Case BE/2006/0433 (Commission comments to Belgium) 4.8.2006:

The Commission considers that termination rates should normally be symmetric and that asymmetry, acceptable in number of cases, requires an adequate justification. It recognizes that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned. Possible justifications could be represented by the cost differences between the operation of a GSM900 network and a DCS1800 one or by substantial differences in the date of market entry.

The Commission expects the differences related to technology to be small and invites the IBPT to quantify them more precisely if they were to apply to this case. In addition, the fact that a MNO entered the market later and has therefore a smaller market share can only justify higher termination rates for a limited transitory period. The persistence of higher termination rate would not be justified after a period long enough for the operator to adapt to market conditions and become efficient and could even discourage smaller operators from seeking to expand their market share.

For these reasons, the Commission concurs with the IBPT's objective to eliminate the asymmetry in the MTRs over a reasonable timeframe, on the basis of the costs of an efficient operator. The IBPT has a margin of discretion in applying the principles set out in Article 8(4) of the Access Directive and therefore to set the timeframe, but the Commission has indicated in a number of cases that it is necessary to ensure that the asymmetries do not remain in force for too long andthat the MTRs of each MNO should be brought down to the cost of an efficient operator as soon as possible.

The Commission considers that the glide path proposed in the notified measures does not comply with these objectives. The Commission invites the IBPT to implement sooner than currently envisaged the principle of forward-looking economic efficiency and to reduce further the maximum MTRs to be applied by Mobistar and Base during the period of this review.

In this regard, the Commission invites the IBPT to determine the level of the MTRs of each operator:

> • so as to reach symmetry between Proximus and Mobistar within the period of the current review (i.e. by 2008). This is justified by the consideration that these operators have been present in the Belgian market for more than ten years, use the same technology and their relevant costs structures are converging, as shown by the IBPT's own analysis. In addition, the Commission underlines that in the majority of Member States where cost oriented price regulation of MTRs is

Draft for Consultation

effectively in place (e.g. Austria, Italy, France, Sweden, UK and the Netherlands) NRAs imposed symmetric MTRs between the first and the second MNO;

• so as to reach symmetry between all operators shortly after the timeframe of this review, unless IBPT were of the view that objective cost differences outside the control of the operators as discussed in the previous paragraphs justified the maintenance of a small degree of asymmetry. This would in any case imply that the termination rates of Base would have to be reduced more steeply already during this period of review.

Case FI/2006/0403 (Commission comments to Finland) 16.6.2006:

The Commission acknowledges that the current, commercially negotiated, termination rates applied by MNOs in Finland are well below the EU average. Nevertheless, the Commission invites Ficora to monitor the evolution of termination rates and in case the commercial negotiations in future fail to yield cost-oriented termination rates and would not resolve the current asymmetries in termination rates, Ficora should consider imposing a proper ex ante price control obligation supported by an appropriate cost-accounting methodology.

Case FR/2006/0461 (Commission comments to France) 4.9.2006:

The Commission considers that MTRs should normally be symmetric and that asymmetry requires an adequate justification. It is recognized that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned, for instance owing to cost differences between the operation of a GSM900 network and a DCS1800 network or to substantial differences in the date of market entry.

Nonetheless, the fact that a MNO entered the market later and that it therefore has a smaller market share can only justify higher termination rates for a limited transitory period. The persistence of a higher termination rate would not be justified after a period long enough for the operator to adapt to market conditions and become efficient and could even discourage smaller operators from seeking to expand their market share.

The Commission has indicated in a number of cases that it is necessary to ensure that the asymmetries do not remain in force for too long and that the MTRs of each MNO hould be brought down to the cost of an efficient operator as soon as possible. In this regard, the Commission invites ARCEP to determine the level of the MTRs of each operator so as to reach symmetry between all operators as soon as possible after the planned one-year interim period, unless ARCEP at that stage is of the view that objective cost differences outside the control of the operators as discussed above justify the maintenance of a certain degree of asymmetry. In that case the Commission invites ARCEP to justify the asymmetry, based on a cost model which takes in to account costs of an efficient operator and the complete processing of adequate accounting information to be provided by all three MNOs.

Case FR/2007/0596 (Commission comments to France) 15.3.2007:

Asymmetry in mobile termination rates: The Commission would like to remind ARCEP that termination rates should normally be symmetric and that asymmetry requires an adequate

Draft for Consultation

justification. It recognized that, in certain exceptional cases, asymmetry might be justified by objective cost differences which are outside the control of the operators concerned. Possible justifications could be represented by the objective network cost differences or by substantial differences in the date of market entry.

The Commission notes that *Outremer* indeed has only recently entered the market which may justify temporarily asymmetric termination rates. However, when reviewing the price obligation ARCEP is invited to take into account the necessity for any operator to become efficient over time. Given the importance of regulating mobile termination rates effectively and in a consistent manner, the Commission encourages ARCEP to work in close co-operation with the European Regulators Group in the future to arrive at a coherent approach on this matter across the EU.

Case FR/2006/0413 (Commission comments to France (SMS)) 14.7.2006:

In order to increase legal certainty the Commission invites ARCEP to specify the way towards a symmetric price cap in the final measure. Moreover, the Commission invites ARCEP to specify the accounting system to be imposed on the SMP operators as well as the cost model for calculating the MNOs' SMS termination rates, giving an incentive for all MNOs to become efficient as soon as possible.

Case LV/2006/0464 (Commission comments to Latvia) 25.8.2006:

As regards the implementation of the cost orientation and accounting separation remedy, the Commission notes that SPRK's decision of 30 November 2005 is not particularly detailed. In order to ensure effective price regulation, the Commission invites SPRK to develop as quickly as possible its own cost model.[54] In this context, the Commission would like to stress that termination rates should normally be symmetric[55] and that asymmetry, acceptable in number of cases, requires an adequate justification.[56] Therefore, in order to ensure the fulfilment of this principle in Latvia in the future, the cost model (for example based on the FL-LRIC methodology) should take into account costs of an efficient operator.

The Commission recognizes that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned. Possible justifications could be represented by the cost differences between the operation of a GSM900 network and a DCS1800 one, or by substantial differences in the date of market entry. However, the Commission expects the differences related to technology to be small.

6 Given the EU wide importance of such a model, the Commission encourages this work to be conducted in close co-operation with the European Regulators Group to arrive at a coherent approach that takes into account the work of other NRAs.

7 The Commission recalls that a vast majority of the NRAs have adopted regulatory measures which aim at achieving symmetric mobile call termination rates after a reasonable period of time. The Commission also notes that so far the third MNO in Latvia has not been able to charge higher termination rates than the two larger MNOs.

Draft for Consultation

8 The Commission recognizes that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned. Possible justifications could be represented by the cost differences between the operation of a GSM900 network and a DCS1800 one, or by substantial differences in the date.

Case LV/2007/0574 (Commission comments to Latvia) 26.1.2007:

Asymmetry in mobile termination rates: The Commission would like to remind SPRK that termination rates should normally be symmetric and that asymmetry requires an adequate justification. It recognized that, in certain exceptional cases, asymmetry might be justified by objective cost differences which are outside the control of the operators concerned. Possible justifications could be represented by the objective network cost differences7 or by substantial differences in the date of market entry.

The Commission notes that *BITE Latvija* indeed has only recently entered the market which may justify temporarily asymmetric termination rates. However, the Commission invites SPRK to ensure that termination rates of all operators take into account the necessity to become efficient over time. Given the importance of regulating mobile termination rates effectively and in a consistent manner, the Commission encourages SPRK to work in close co-operation with the European Regulators Group in the future to arrive at a coherent approach on this matter across the EU.

Case BE/2007/0665 (Commission comments to Belgium) 14.8.2007:

Need for a coherent European approach
The Commission welcomes that IBPT has modified its cost accounting methodology and consequently price control obligations which reduces the asymmetry in mobile termination rates in Belgium. At the same time, whilst acknowledging that termination rates imposed by IBPT are based on the model it has developed for an efficient operator, the Commission would like to draw attention to the fact that there are still wide discrepancies at the level of termination rates in different Member States which are not all justified by objective cost differences. Therefore, the Commission has invited the NRAs to work closely within the European Regulators Group ("ERG") to arrive at a coherent approach on this matter across the EU. The Commission would like to invite IBPT to revisit its analysis along the lines of a possible common approach as appropriate.

Case IT/2007/0659 (Commission comments to Italy) 2.8.2007:

Non-imposition of a cost orientation obligation
In accordance with Article 8(4) of the Access Directive8, the obligations imposed on SMP operators shall be based on the nature of the problem identified, proportionate and justified in the light of the regulatory objectives laid down in Article 8 of the Framework Directive, in particular the promotion of sustainable competition and efficient investment in infrastructure. The Commission believes that normally a cost orientation obligation based on the costs of an efficient operator is the optimal method for setting price caps for MTRs. Nevertheless the Commission is aware of the fact that (i) currently H3G is not subject to a cost accounting obligation, and (ii) H3G's MTR applicable from 1 January 2008 will be replaced by the MTR imposed as a result of the second round analysis of market 16. Consequently, the Commission believes that the method referred to as "delayed approach" by AGCOM and international benchmarking can be used in order to determine maximum MTRs of H3G before a cost orientation obligation is introduced. The Commission would like to invite AGCOM to finalise the second round analysis of market 16 as soon as possible, with a view to introducing cost

Draft for consultation

oriented MTRs for all four MNOs as soon as possible[9]. In this context, the Commission considers that termination rates should be based on the costs of an efficient operator and will therefore normally be symmetric. Further, the Commission recognises that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned, such as (i) different network topologies due to the use of specific frequency bands; and (ii) substantial differences in the date of market entry which could justify higher termination rates in a reasonable transition period. AGCOM is also invited to work in close co-operation with the ERG in order to arrive at a coherent approach for such a cost model that also takes into account the work of other NRAs.

Interim level of MTR imposed on H3G
Although the use of the method referred to as "delayed approach" by AGCOM and international benchmarks in the notified draft measure are acceptable in principle, the Commission is concerned about the level of MTRs imposed on H3G between 1 January 2008 and the introduction of new MTRs following the second market review. First, the commercial launch of H3G took place in the beginning of 2003 according to publicly available information. This means that H3G's termination rate will be regulated almost five years after market entry. Secondly, the absolute level of the MTR imposed on H3G from January 2008 is among the highest in Europe. In particular, H3G's MTRs are higher than those of other undertakings in the Hutchinson group operating in the EU despite the fact that H3G's market share in Italy is higher than those of its sister companies in the EU, which should normally allow H3G to benefit from economies of scale when providing call termination services. Therefore it appears that for the interim period starting at 1 January 2008 H3G's MTR are at too high a level. The method referred to as "delayed approach" by AGCOM and international benchmarks should serve to promote efficiency, competition and maximize consumer benefits. Consequently, the Commission would like to invite AGCOM to consider whether a more rigorous application of its proposed model would result in a further reduction of H3G's MTR already from 1 January 2008.

Case FR/2007/0669 (Commission comments to France) 13.9.2007:

Asymmetry in the MTR of Bouygues
In its comments in case FR/2006/0461 the Commission considered that MTRs should normally be symmetric and that asymmetry requires an adequate justification. It is recognized that, in certain exceptional cases, an asymmetry might be justified by objective cost differences which are outside the control of the operators concerned.

The Commission notes that ARCEP justifies asymmetric MTRs for Bouygues with traffic imbalances and significant net payments of Bouygues to the two other operators. However, such traffic imbalances may in fact be caused by the current asymmetric level of MTRs as well as by an on-net/off-net retail price differentiation that is within the control of the operators. For this reason, the Commission stresses the importance of reducing MTRs to the level of costs of an efficient operator which takes into account objective cost differences as defined above.

In view of the need to ensure that asymmetries are phased out over time unless objective justifications persist, the Commission notes the transitional nature of the draft measure and the acknowledgement by ARCEP that the different factors presently justifying asymmetry may no longer apply in the future. The Commission further notes that ARCEP makes this move towards symmetric MTRs also dependent on the outcome of harmonisation activities at

Draft for Consultation

European level. In this respect, the Commission recalls its earlier comments on the need for a coherent European approach (made in Case BE/2007/0665) in order to ensure that the MTRs of each MNO are brought down to the cost of an efficient operator as soon as possible.

Asymmetry in MTR of MNOs active in the French overseas territories
ARCEP intends to implement cost orientation of Orange Caraïbe and SRR in a glide path that will lead to a reduction of their MTR to 0.065 € in 2010. The MTR of the other MNOs in the French overseas territories could be cost oriented following the third round review of the market. The Commission is aware of the fact that the MNOs active in the French overseas territories operate under conditions that are not necessarily comparable to those in mainland France or other EU Member States. Nevertheless the Commission is convinced that the principles defined for an efficient regulation of MTR apply also in the French overseas territories. Consequently, the Commission invites ARCEP to reassess its measure concerning these MNOs in the light of a common European approach, as soon this has been established, and to revise such decision, if necessary, with a view to reducing MTR in the French overseas territories in a more expedient manner.

Annex B (confidential): Tables with national answers regarding aggregated data provided in the document

[…]

Annex C (confidential): Tables with national answers regarding additional questions which are not covered in the document

[…]

Annex D: German and English experiences regarding differences in spectrum allocations

United Kingdom
Ofcom's position on this issue is the following. In its March 2007 *Calls to Mobiles* statement market review on mobile termination[57] it concluded that:

- Using the prevailing (administratively set) price of 900Mhz and 1800Mhz spectrum, the modelled MCT costs of 900/1800Mhz operators are lower that those of 1800Mhz only operators (higher coverage costs); and
- The MCT costs of 2G/3G operators may be lower that those of 3G only operators (3G only operators have lower network costs, but overall costs are sensitive to the cost of 2G and 3G spectrum);
- By the end of the review such differences will be reduced.[58]

Reflecting the historic position, average termination charges differed between 900/1800Mhz, 1800Mhz only and 3G only operators. Ofcom's March 2007 *Calls to Mobiles* statement signalled a gradual transition toward (greater) symmetry.

[57] See http://www.ofcom.org.uk/consult/condocs/mobile_call_term/statement/.

[58] However, Ofcom explicitly recognised that these modelled cost differences reflect the modelling assumptions and they may not reflect exogenous cost differences between operators.

Draft for Consultation

First in terms of 1800Mhz only (T-Mobile and Orange) and 900/1800Mhz (Vodafone and O2) operators, Ofcom's cost model showed that modelled cost differences between the two types of operators will decline and by the end of the review (2010/11), it will be significantly lower. Ofcom decided that:

- alignment should not be immediate since previous reviews have concluded that 900/1800MHz and 1800MHz-only operators should be subject to different charge controls and since the relevant spectrum is not yet tradable;
- rather the charge controls should be aligned by 2010/2011; this date takes into account the fact that by then the modelled cost differential would be reduced to under 0.3ppm; and
- Therefore, the level of the charge controls by the end of the review will be symmetric and set at the level of 1800Mhz only operators. This was chosen to reflect a conservative assumption (1800Mhz has higher modelled MCT costs).

Second, in terms of 2G/3G and 3G only operators, the size of the modelled cost differential is generally larger than between 900/1800Mhz and 1800Mhz only. Ofcom decided that:

- This cost differential will be reflected in the charge controls;
- There are also comparability difficulties between 2G and 3G spectrum costs, making it challenging to determine what level 2G/3G and 3G charges should be aligned at; and
- Therefore the charge controls in the *Calls to Mobile* statement will narrow the difference between 2G/3G and 3G only termination charges but will not remove it during the current market review.

Germany

In its MTR approval decision of 8/11 November 2006 BNetzA allowed for different rates of the 900MHz operators (T-Mobile and Vodafone, 8.78 €-cents) and the 1800 MHz operators (e-plus and O2-Telefónica Germany, 9.94 €-cents) reflecting the differences in costs due to different spectrum endowment and the difference in market share (differences in exploiting economies of scale). However, BNetzA expects the spread to decrease. The MTRs are approved until 30 November 2007. With 900MHz operators owning 1800MHz spectrum and 1800MHz operators getting 900MHz spectrum, the spectrum endowments resemble each other more and more and cost differences will vanish. There are no pure 3G operators in Germany as the 2 newcomers exited the market. As the 4 GSM operators cannot distinguish whether a call terminates on 2G or 3G (and M16 comprises voice call termination on both) no difference was made and the MTRs were fixed based on an international benchmarking. As the cost standard to be used for the approval is the cost of efficient service provision, the MTRs taken into account were checked to be regulated according to this standard.

Draft for Consultation