ERG (09) 41

ERG Report
Regulatory Accounting in Practice 2009

October 2009

1. Executive Summary

Since 2005, the ERG has collected information annually from its members on the implementation of regulatory accounting methodologies, systems and processes. These regulatory accounting frameworks provide National Regulatory Authorities (NRAs) with financial information essential to facilitate some of their significant regulatory decisions such as setting price controls, monitoring compliance with ex-ante obligations (for example no undue discrimination) and informing market reviews.

The main purpose of this report is to provide an up-to-date factual report on the regulatory accounting frameworks used in Europe and an assessment of the level of harmonisation achieved by NRAs. This report sets out an overview of the regulatory accounting frameworks updated to June 2009 and illustrates trends and comparisons with data collected each year from 2006.

The overall picture is one of consolidation from last year which showed a trend to harmonised approaches across markets and across Europe, accommodating the use of elements or parameters that reflect national circumstances within the overall approaches (see also below). Current cost accounting is the strongly preferred cost base for wholesale markets and in two markets over 80 per cent of NRAs apply this cost standard. The use of long run incremental cost (LRIC) methodologies is now well established across all wholesale markets. These findings reflect the primary cost base or methodology selected by a NRA but does not bring out situations where a NRA would strengthen its financial analysis by comparing outcomes from one principal methodology with alternative approaches such as comparing bottom-up models with top-down or incurred costs.

This year a qualitative questionnaire has been introduced to provide some more background and context to the main survey. The aim is to provide more insight into the methods and application of regulatory accounting data. The early findings seem to show that bottom-up models are used much more for price control setting rather than top-down/actual cost models, which are used more often for monitoring ex-ante obligations of cost orientation and no undue discrimination. This part of the survey also indicates that there are a number of factors of material importance to the results of cost models. These factors include the valuation basis of the regulated asset base and determining the economic lives of these assets in addition to specific national differences such as topographical and demographic aspects.

The report shows NRAs have made good progress in developing effective regulatory accounting frameworks to meet their needs. However, this is a complex and highly technical topic which requires regular maintenance and enhancement of the regulatory accounting framework as competition develops, technology improves and new regulatory challenges emerge. We therefore anticipate carrying out more in-depth analysis of the regulatory accounting approaches in key wholesale markets in next year’s RAP Report.

2. Introduction

2.1 Background

In September 2003 the IRG Regulatory Accounting Working Group (RA WG, now the Regulatory Accounting Project Team) started an internal data gathering process aimed at describing how regulatory accounting systems were implemented in member states with respect to cost-orientation or non-discrimination obligations or to assist price control decisions.

The first results of this process were summarised in the report on Regulatory Accounting in Practice, prepared by the RA WG in April 2005[1]. At the time the report showed a range of accounting methodologies used across Europe[2].

The report was then updated in 2006, 2007 and 2008[3] in order to monitor whether the level of harmonisation in regulatory accounting systems across Europe had improved. By the end of the first 2006 quarter several countries had completed the market reviews, therefore it was possible to start evaluating how various member states implemented the obligations provided for by articles 10, 11 and 13 of the Access Directive (for wholesale markets), by article 17 of the Universal Service Directive (for retail markets) and the principles contained in the new European Commission Recommendation on Cost Accounting and Accounting Separation of September 2005[4]. The 2006, 2007 and 2008 reports showed a clear trend towards an increasingly harmonised approach to regulatory accounting obligation among ERG countries. This trend is further confirmed by 2009 data.

2.2 Current report

This year's report is a further update of the regulatory accounting systems status across Europe. It monitors how regulatory accounting methods and models developed as a consequence of the adoption by National Regulatory Authorities (NRAs) of decisions regarding market analyses. This year's report confirms the harmonisation trend already observed in last years.

---

[1] IRG (05) 24 RA in practice 2005 (available on: http://www.irg.eu/template20.jsp?categoryId=260350&contentId=543311).

[2] The great majority of countries had not yet finished the market reviews imposed by the new regulatory framework. As a result, data collection referred to the old framework, and, consequently, communication services were divided in the following three categories: "Fixed", "Mobile" and "Other". Each member state was using a different mix of accounting methodologies to comply with their own national situations. While Current Cost Accounting (CCA) and Long Run Incremental Cost (LRIC) methodologies were by far the preferred methods for imposing cost orientation when regulating fixed networks, Historical Cost and Fully Allocated Cost methodologies (also referred to as Fully Distributed Cost) were primarily used for mobile networks regulation.

[3]
- ERG (06) 23 Regulatory accounting in practice 2006.
- ERG (07) 22 Regulatory accounting in practice 2007.
- ERG (08) 47 Regulatory accounting in practice 2008.

[4] Recommendation 2005/698/EC replacing Recommendation 98/960/EC on Accounting Separation and Cost Accounting of 8 April 1998. In September 2005 the ERG published a Common Position containing "Guidelines on implementing the EC Recommendation 2005/698/EC", cf. document ERG (05) 29.

The report benefits from information collected from the 28 authorities[5] (listed in Annex 1). This represents a comprehensive survey enhanced this year by qualitative comments on applying regulatory accounting in practice. Not all NRAs replied to all questions, but the results are nevertheless robust because the outcome represents the majority of the respondents.

The information provided in this report refers to those markets for which the market analyses are either concluded or under consultation. The report reflects, therefore, also measures which are planned to be implemented by the end of 2009, although the final decisions may be still subject to outstanding consultations and may therefore be part of the second market analysis round.

2.3 The data collection process

NRAs can in principle use a variety of objective and appropriate regulatory accounting methodologies depending on their market analysis[6], however NRAs should aim at following regulatory best practice.

In order to obtain a general view of accounting systems across Europe, the Regulatory Accounting Project Team (RA PT) is collecting a broad range of data since 2005, including, *inter alia*, a comparison between the cost-base (e.g. historical cost versus current cost) and the costing methodology (e.g. fully distributed cost - FDC- or long run average incremental cost -LRIC) chosen by different NRAs.

Such data, providing a valuable source of information, form an IRG database, which is an informal data exchange tool among member states[7]. It includes, for each of the 18 markets identified by the old EC Recommendation as susceptible of *ex ante* regulation, the following information:

- cost base;
- accounting system;
- price control method;
- auditing process;
- WACC calculation methodology; and
- remedies imposed to SMP operators.

In order to improve data comparability the following pre-defined options were included in the data request:

· For the Cost base:

- *HCA Family (Historical Cost Accounting and Forward Looking - Historical Cost Accounting[8])*

[5] Belgium did not send data for 2009 therefore Belgium's data are referred to year 2008, however Belgium is not listed in Annex 1.
[6] For an exhaustive explanation of how to implement a regulatory accounting system see the ERG (05) 29 "Common position on EC Recommendation on Cost accounting and accounting separation".
[7] The database contains confidential information and it is not published.
[8] FL-HCA, as a cost base, is derived from HCA accounts and represents a forecast of historical costs, given certain hypotheses on future volumes and costs trend. They are typically used in a context of future tariff approval for services valued at HCA.

- *CCA Family (Current Cost Accounting and Forward Looking - Current Cost Accounting)*
- *Other cost base methodologies that do not appear in the above definitions.*

· For the Accounting System / Cost Model[9]:

- *- LRIC, LRAIC (Long Run Incremental costs, Long Run Average Incremental costs)*
- *- FDC (Fully Distributed Costs)*

· For the Price control method:

- *- Price Cap*
- *- Retail Minus*
- *- Cost orientation/Cost accounting*[10]
- *- Benchmarking*
- *- Other price methods that do not appear in the above definition*

Besides the abovementioned data, some countries provided further information regarding the approach used to develop a cost model (e.g. Top-Down).

Finally, in order to simplify the data presentation and also to respect the confidentiality request made by NRAs for certain data, this report, as in the previous years, does not present and comment all the data collected. More precisely, this year's report concentrates on those markets listed in the new EC Recommendation as susceptible of ex ante regulation. These are markets typically subject to regulatory accounting remedies and, in most countries, the market analyses have been completed and remedies implemented. For those markets not listed in the new EC Recommendation as susceptible of ex ante regulation, the 2009 report follows how the deregulation process is developing in Europe.

[9] According to Recommendation 2005/698/ EC "*The purpose of imposing an obligation to implement a cost accounting system is to ensure that fair, objective and transparent criteria are followed by notified operators in allocating their costs to services in situations where they are subject to obligations for price controls or cost-oriented prices."*

[10] Although various price control methods, for example benchmarking and price cap, may in practice result in cost oriented prices, a category "cost orientation" as a price control method has been created to indicate price regulation based on regulatory accounting data and costing model.

3. Outline of the Results

3.1 Summary of results

In this year's report the information collected is referred to the 18 markets listed in Commission Recommendation 2003/311/EC. This Recommendation was substituted by a new Recommendation (2007/879/EC) in December 2007 which, following the evolution observed in electronic communication markets over recent years, revised the list of relevant markets of the previous one and reduced the number of markets susceptible to ex ante regulation. Seven markets are now identified, one at the retail level[11] and the other six at the wholesale level[12].

For this reason, as in last year's report, the summary of main results has been split in two tables. Table 1 refers to data regarding the seven markets still susceptible of ex ante regulation whereas Table 2 refers to those markets that were listed in the 2003 EC Recommendation which, according to the Commission, are not anymore susceptible of ex ante regulation[13]. As the remedies referred to these markets where adopted before the new Recommendation became effective, data referred to them have been still collected and monitored.

Table 1 below indicates, the markets listed in the new EC Recommendation (first column) and the corresponding markets in the old one (second column), whereas Table 2 reports only the markets listed in the old Recommendation. Moreover, in order to check whether the process of deregulation of markets not included anymore in the new EC Recommendation started in the last year, Table 2 shows, in the second column also the number of countries with some price control or accounting obligation in 2008.

In both tables the following columns show respectively: *i*) the number of countries in which some price control[14] and/or accounting obligations[15] is in place in 2009; *ii*) the most common "Cost Base"; *iii*) the "Accounting Methodology" and *iv)* the "Price Control Method" (indicating the percentage of countries adopting it).

Table 1 shows that the most commonly used cost base is CCA for all markets still susceptible of ex ante regulation.

[11] Market 1: "*Access to the public telephone network at a fixed location for residential and non-residential customers*".

[12] Market 2: "*Call origination on the public telephone network provided at a fixed location*"; Market 3: "*Call termination on individual public telephone networks provided at a fixed location*"; Market 4: "*Wholesale network infrastructure access at a fixed location*"; Market 5: "*Wholesale broadband access*"; Market 6: "*Wholesale terminating segments of leased lines*" and Market 7: "*Voice call termination on individual mobile networks*".

[13] NRAs deciding to maintain/modify/eliminate existing remedies in these markets have to run the so called three criteria test to proof the relevant market is still susceptible of ex ante regulation. See ERG (08) 21 Report on Guidance on the application of the three criteria test.

[14] Art. 13 Access Directive, art.17 Universal Service Directive.

[15] Art. 11 and Art. 13 Access Directive.

Table 1 - Summary of results in the 7 markets identified by Rec.2007/879/EC

Markets Rec. 2007/879/EC	Markets Rec. 2003/311/EC	#of countries with price control and/or accounting obligation in 2009	Most common Cost Base	Most common Accounting Methodology	Most common Price Control Method
Market **1** Fixed Call Access Residential and non Residential	Market **1** Fixed Call Access Residential	21	39% CCA 28% HCA	67% FDC	39% Cost Orientation 33% Price Cap
	Market **2** Fixed Call Access Non-Residential	19	35% CCA 29% HCA	71% FDC	41% Cost Orientation 35% Price Cap
Market **2** Fixed Call Origination Wholesale	Market **8** Fixed Call Origination Wholesale	25	84% CCA	72% LRIC/LRAIC 24% FDC	92% Cost Orientation
Market **3** Fixed Call Termination Wholesale	Market **9** Fixed Call Termination Wholesale	26	81% CCA	69% LRIC/LRAIC 31% FDC	92% Cost Orientation
Market **4** Unbundled Access Wholesale	Market **11** Unbundled Access Wholesale	26	62% CCA	54% LRIC/LRAIC 38% FDC	85% Cost Orientation
Market **5** Broadband Access Wholesale	Market **12** Broadband Access Wholesale	20	61% CCA 22% HCA	40% LRIC/LRAIC 40% FDC	60% Cost Orientation 30% Retail Minus
Market **6** Terminating Segments Wholesale	Market **13** Terminating Segments Wholesale	23	57% CCA 35% HCA	57% FDC	65% Cost Orientation
Market **7** Mobile Call Termination Wholesale	Market **16** Mobile Call Termination Wholesale	23	65% CCA	54% LRIC/LRAIC 35% FDC	73% Cost Orientation

Source: ERG RA –PT 2009

In terms of Accounting Methodology, 2009 data confirm again last year's pattern: FDC is, by far, the most commonly used in retail access markets. LRIC is widely used in all wholesale markets.

As far as the Price Control Method is concerned, Cost Orientation remains in 2009 the most frequently adopted remedy.

Table 2 - Summary of results in the 11 markets identified by Rec. 2003/311/EC

Markets Rec. 2003/311/EC	#of countries with price control and/or accounting obligation in 2008	#of countries with price control and/or accounting obligation in 2009	Most common Cost Base	Most common Accounting Methodology	Most common Price Control Method
Market **3** Nat. fixed services res.	15	15	50% CCA	80% FDC	50% Price Cap 40% Cost Orientation
Market **4** International fixed Services Residential	9	9	56% CCA	78% FDC	44% Cost Orientation 33% Price Cap
Market **5** National fixed Services Non-Residential	13	11	36% CCA	64% FDC	45% Cost Orientation
Market **6** International fixed Services Non-Residential	10	10	40% CCA 40% HCA	80% FDC	50% Cost Orientation
Market **7** Leased Lines	17	15	47% CCA 40% HCA	73% FDC	73% Cost Orientation
Market **10** Fixed Transit Services Wholesale	19	16	81% CCA	69% LRIC/LRAIC	69% Cost Orientation
Market **14** Trunk Segments Wholesale	12	12	50% CCA 25% HCA	42% FDC	58% Cost Orientation
Market **15** Mobile Access and Origination Wholesale	3	3			
Market **17** International Roaming	1	1			
Market **18** Broadcast	13	14	79% HCA	86% FDC	79% Cost Orientation

Source: ERG RA –PT 2009

Table 2 shows that in market 5, 7 and 10, the number of countries in which some price control and/or accounting obligations is in place decreased since last year, confirming that some NRA has already started the liberalisation process envisaged by the new Recommendation. In market 18, the increase in the number of countries adopting some price control and/or some accounting obligations from 13 in 2008 to 14 in 2009 is explained by the inclusion of one more country whose data were missing in 2008.

Moreover Table 2 shows that the most commonly used cost base is CCA in fixed retail markets except for markets 6, where HCA is adopted in the same proportion as CCA.

As far as the accounting methodology is concerned, FDC is consolidated since 2007 as the most commonly used accounting methodology in retail markets.

In terms of Price Control Method, Cost Orientation remains the most frequently adopted remedy, except in market 3 where the price cap prevails.

The rest of this chapter shows data for markets where market reviews are either complete or are under public consultation.

3.2 A snapshot of 2009 data

The first two paragraphs in this section provide a snapshot of the "Price control method" and the "Cost base" used for all the 18 markets listed in the old EC Recommendation for the year 2009.

The following paragraphs show how the choice of the price control method and of the cost base changed over time only for the markets listed in the new EC Recommendation as still susceptible of ex ante regulation. In this latter case, in order to present reliable trend analysis, data has only been included where respondent NRAs provided information for at least three years. Therefore the number of countries analysed may vary from figure to figure[16] and may differ from the number of countries taken into account two following paragraphs.

3.2.1. Price control method

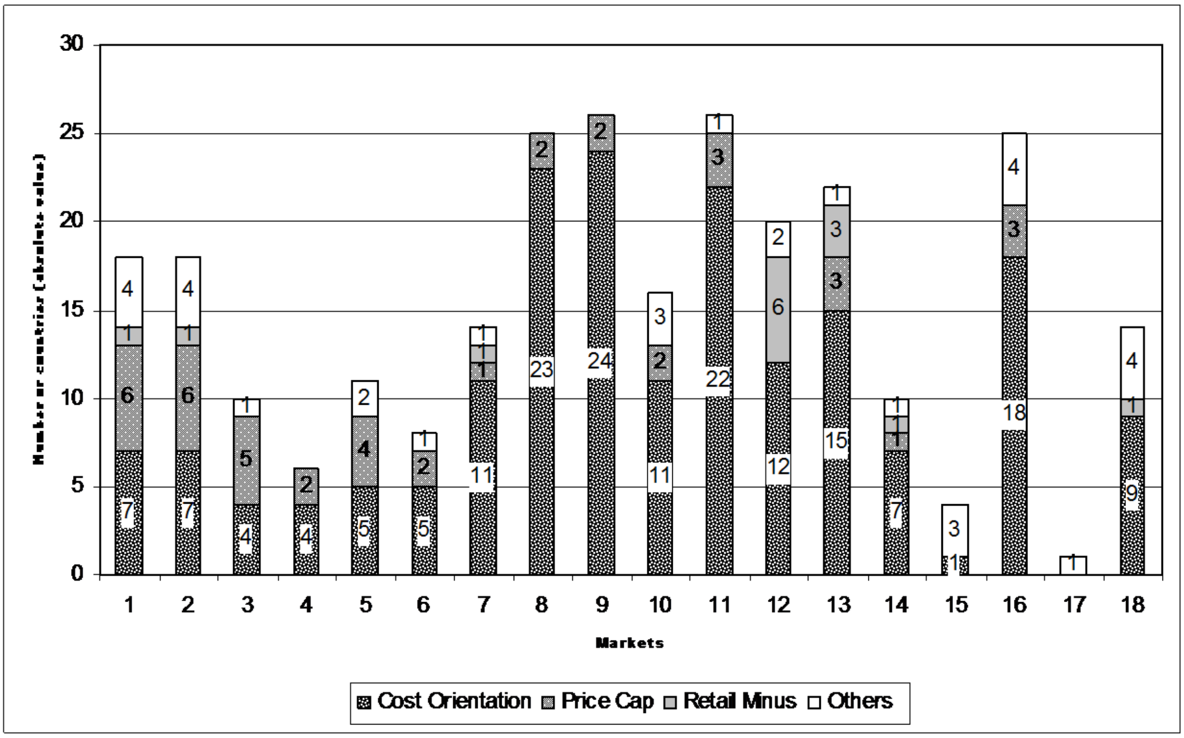
Figure 1 below gives an overview of the price control methods used in IRG countries in the year 2009[17]. The figure shows that cost orientation remains the most commonly used price control method in almost all markets, followed by price cap and other methodologies[18].

[16] The actual number of countries considered is reported in the footnote below each figure.

[17] The numbering of markets in this Figure and in the following one is that of the old Recommendation.

[18] The modality "Others" includes "Reasonable prices", "Ex-post price control", "Cost orientation and/or others". It also include "Benchmarking" that in last year's report was considered alone.

Figure 1- Price control method grouped per market in 2009



Source: IRG 2009 RA database

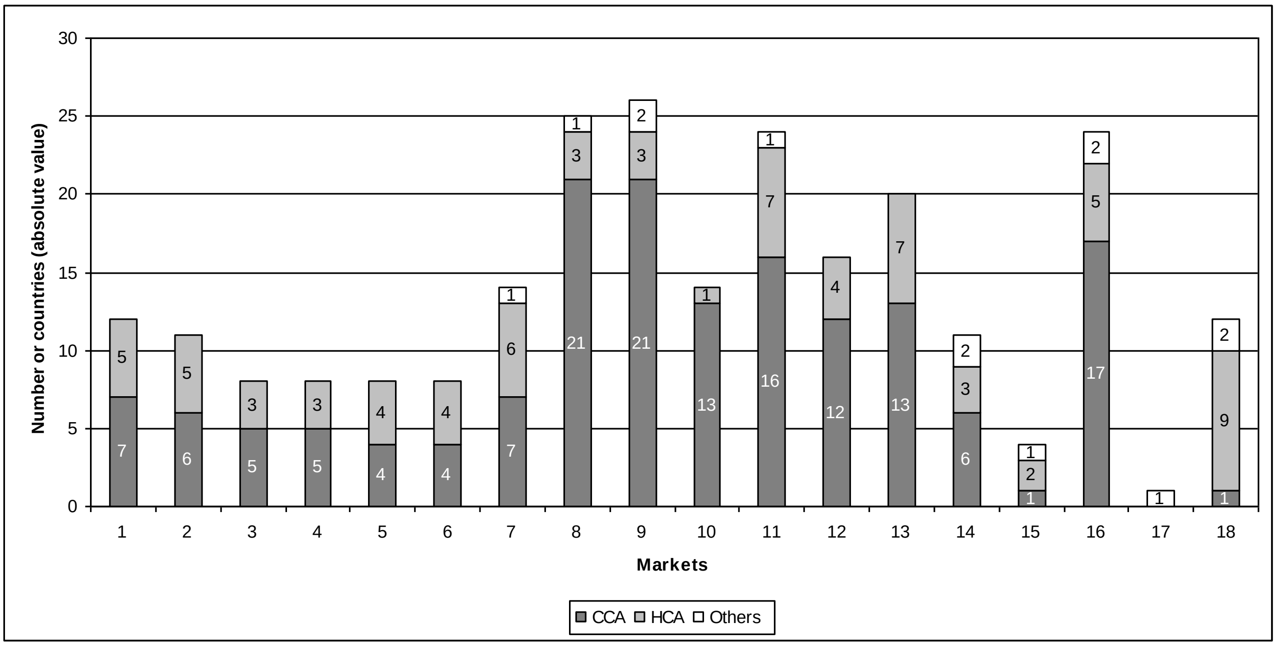
Price Cap continues to be mainly used in retail markets while Cost Orientation is the prevailing method used in wholesale markets. For market 1 and 2 (currently market 1) only one country uses retail minus as price control method referred to Wholesale Line Rental (WLR) regulation. Cost orientation is the most used price control method on market 12, nevertheless Retail Minus continues to be adopted by 30 per cent of countries. The reason that retail minus is used for WBA may be that it is perceived to be easier to implement than cost orientation in a very dynamic market. Another reason may be that retail minus is preferred in order to prevent wholesale squeeze.

Compared to 2008 data, where “Benchmarking” was adopted by eleven NRAs on markets 9, 10, 11, 13, 14 and 16 of the old Recommendation, in 2009 benchmarking has been replaced by cost orientation, except for market 10 and 11 (where is adopted by one NRA, Turkey) and market 16 (where is adopted by two NRAs, Estonia and Portugal).

3.2.2. Cost Base

Figure 2 below gives an overview of the different cost bases used in member states. In the past CCA was by far the most common method for fixed networks and HCA was primarily used for mobile networks regulation, however this year a strong trend towards the adoption of CCA can be observed, particularly in mobile markets.

Figure 2 - Cost base grouped per market in 2009



Source: IRG 2009 RA database
** The modality "Others" includes cost orientation.*

3.3 Cost base and accounting methodology over time

As explained above, the following paragraphs show how the choice of the price control method and of the cost base changed over time for the majority of markets listed in the new EC Recommendation as still susceptible of ex ante regulation.

3.3.1 Fixed call termination (Market 3, previously Market 9)

The new EC Recommendation on relevant markets defines Market 3 (previously 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. It is common, therefore, to see both incumbents and alternative operators having been notified as SMP operators.

However, as clearly explained in the ERG Common Position on symmetry[19], in all countries for this market a clear distinction can be observed between remedies imposed on incumbents on the one side, and remedies imposed on other authorised operators (OAOs) on the other side. In particular, OAOs are regulated less strictly than the incumbent and usually are not subject to accounting separation, price control and cost accounting obligations, as the obligations related to tariff setting for OAOs often take the form of "fair and reasonable", "non-abusive" prices or "delayed reciprocity". For this reason this paragraph reports data on cost base and price control evolution over time, referred to incumbent operators. Unlike Figure 2, which shows data for those countries participating to 2009 survey with no missing information, the figures below show data for those NRAs that provided the relevant information since 2006, therefore they show data for 20 countries.

[19] ERG (07) 83 Common Position on symmetry of fixed call termination rates and symmetry of mobile call termination rates.

Summary

CCA is the preferred cost base for this market combined with LRIC as the costing methodology.

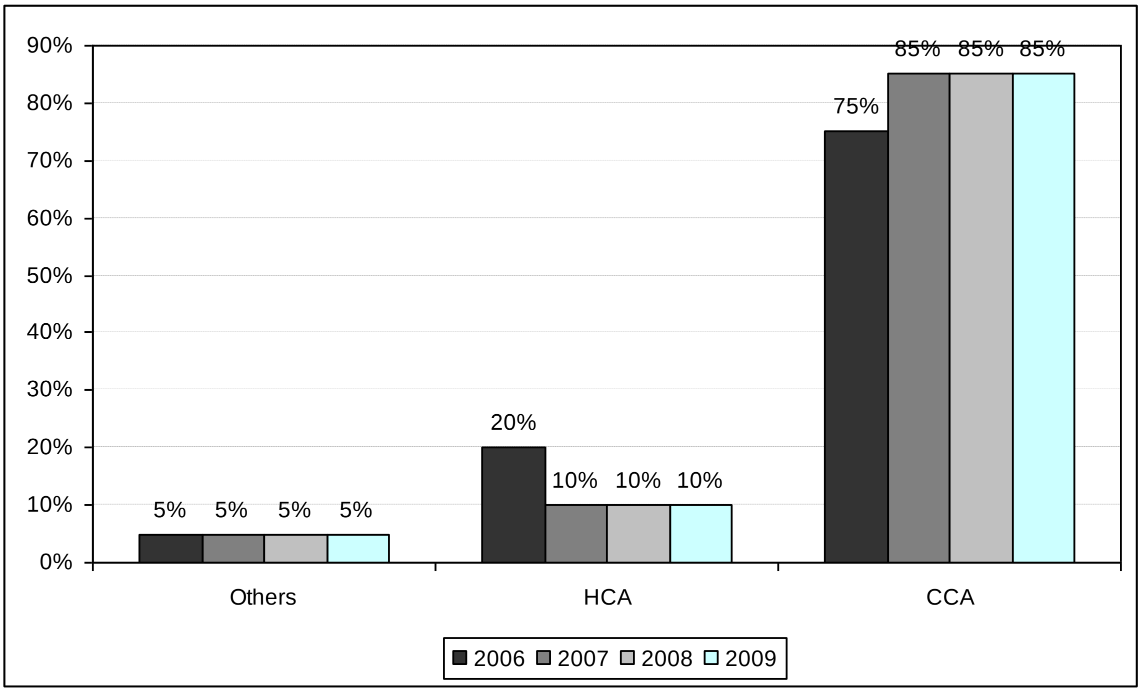
Trend analysis:

Cost base

Figure 3 shows the percentage of countries adopting CCA, HCA or a combination of accounting methodologies to set incumbent's fixed terminating charges in the four year period under observation.

It results that the most common cost base for fixed networks is CCA (always above 75 per cent). It has to be noticed that this is the fifth consecutive year in which such a result is observable, as in fixed networks HCA had already been replaced with CCA by the majority of member states since 2005. On the contrary, the number of countries using HCA decreased from 20 per cent in 2006 to 10 per cent in 2007; this value remained stable across years. This means that 2 additional countries adopted CCA in the last years. Only one country declared to use, since 2006, another type of cost base[20].

Figure 3 - Cost Base Fixed Call Termination (Mkt 3, previously Mkt 9)



Source: IRG 2009 RA database
Number of countries: 20

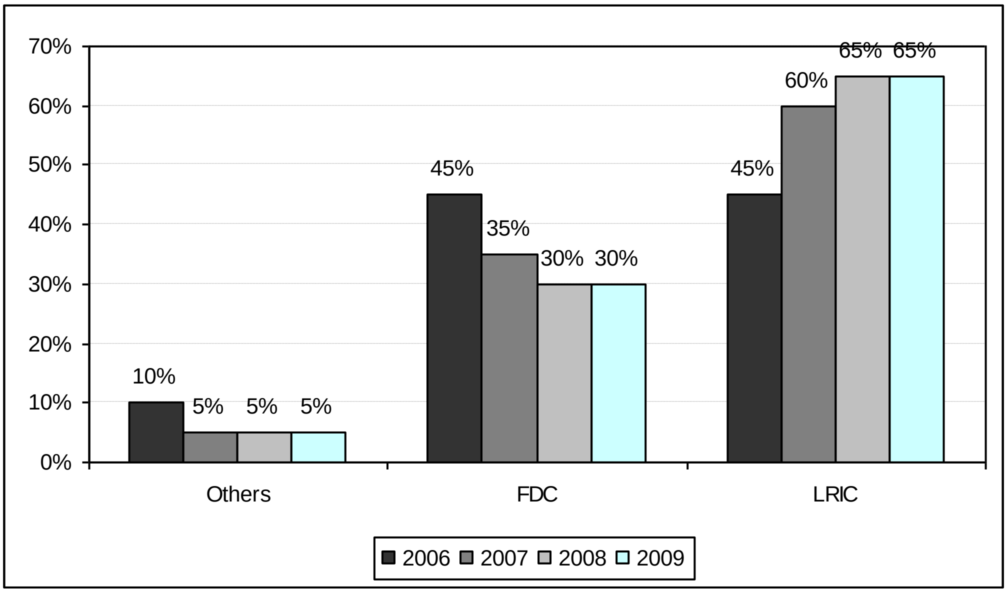
Accounting methodology

Figure 4 shows the percentages of countries using LRIC, FDC or other mixed methodologies for fixed termination services from 2006 to 2009.

[20] In particular this Country uses CCA method for network assets and HCA method for non network assets (vehicles, real estate, machinery, liquid assets, etc.).

The figure shows a significant increase in countries using LRIC for determining fixed termination tariffs since 2006 so that it is now the prevailing accounting methodology (85 per cent). As consequence of this trend, a sharp reduction in the percentage of countries using FDC is observed (FDC passed from 45 per cent in 2006 to 35 per cent in 2007, to reach the value of 30 per cent in 2008 and 2009). Only one country declared to use another methodology[21].

Figure 4 - Accounting Methodologies Fixed Call Termination (Mkt 3, previously Mkt 9)



Source: IRG 2009 RA database
Number of countries: 20

3.3.2 Wholesale network infrastructure access at fixed location (Market 4, previously Market 11)

The new EC Recommendation on relevant markets defines Market 4 (previously Market 11) as the market for "wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location".

In this market all countries notified at least one operator. Typically the SMP operator is the national incumbent with the exceptions of one NRA that defined sub-national geographic market identifying the corresponding local incumbent operators as having SMP.

Unlike Figure 2, which shows data for 24 countries, the figures below show data for those NRAs that provided the relevant information for two years, therefore they show data for 22 countries.

Summary

Also for this market CCA is the preferred cost base combined with LRIC as the costing methodology.

[21] The accounting methodology declared was EDC.

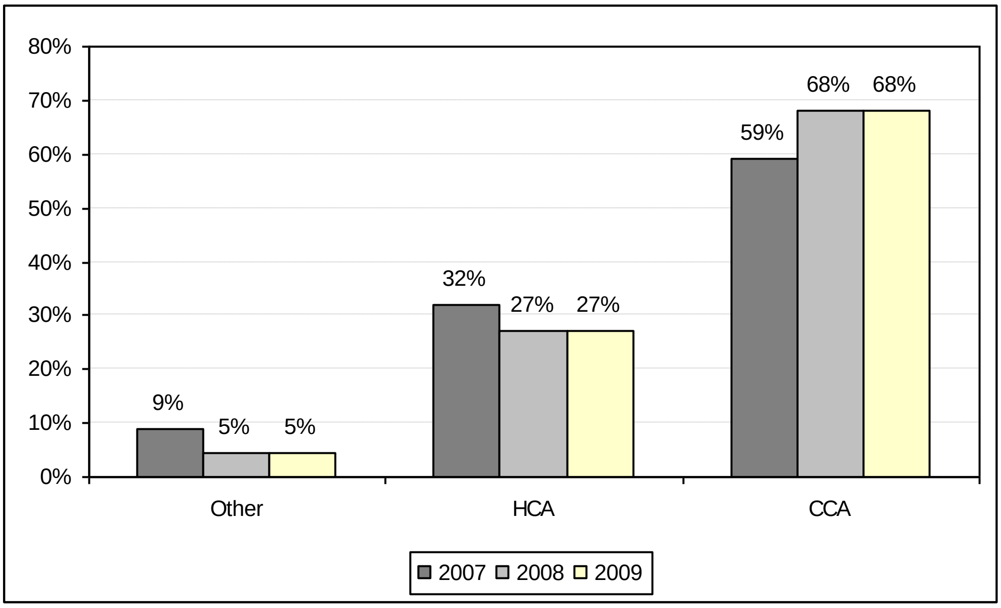
Trend analysis:

Cost base

Figure 5 shows that also in the unbundling market CCA is by far the most commonly used cost base methodology and its use increased from 59 per cent to 68 per cent in 2009, whereas HCA shows an associated reduction in the same time frame (from 32 per cent to 27 per cent). Only one country declared to adopt another methodology[22].

It is important to observe that the change of cost base (from HCA to CCA) is particularly relevant for this market. Unlike other markets where a high percentage of total costs is represented by network equipment subject to technical progress, in the ULL market the highest percentage of costs is related to duct civil engineering which inherently has a very long economic life and is not subject to technological advance. Broadly speaking this may imply that the usual reduction in asset values, which is normally observed in other markets when adopting CCA cost base, is not necessarily observed in the unbundled access market. In addition to that, it has to be taken into account that recently copper price has been fluctuating significantly and is still showing real price increases over time; this price increase could be a further element determining higher service prices when moving from HCA to CCA. While such considerations apply to regulated PSTN services, their validity has yet to be assessed in a NGN environment. In this regard, according to some observers the use of CCA might be relevant in a time of roll-out of fibre access networks and could send better investment signals to promote infrastructure-based competition as well as investment in infrastructure.

Figure 5 - Cost Base Unbundled Access Wholesale (Mkt 4, previously Mkt 11)



Source: IRG 2009 RA database
Number of countries: 22

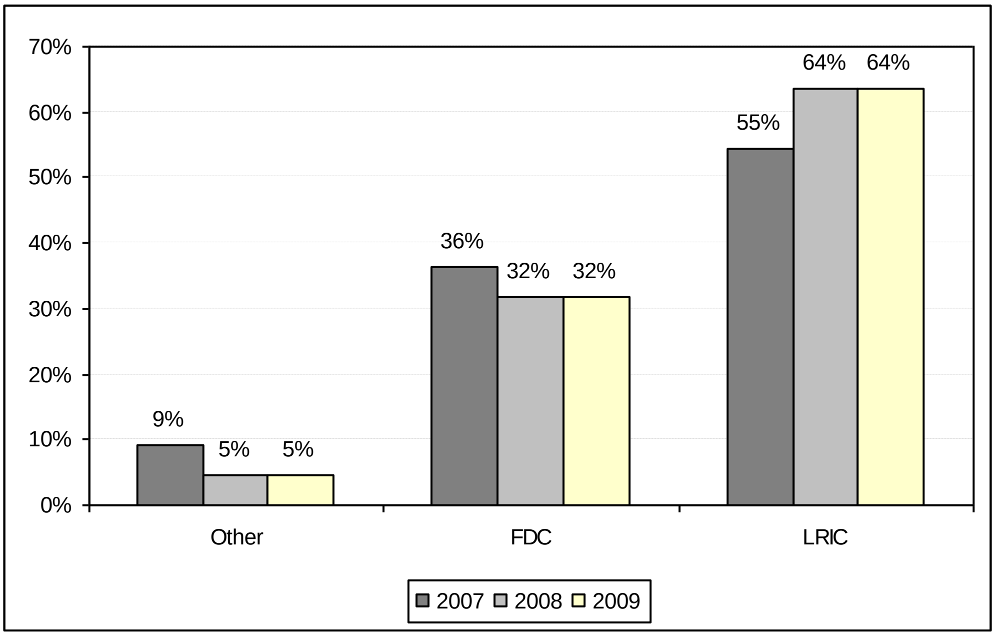
[22] In particular this Country uses CCA method for network assets and HCA method for non network assets (vehicles, real estate, machinery, liquid assets, etc.).

Accounting methodology

Figure 6 shows the percentages of countries using LRIC, FDC or other mixed methodologies in the unbundling market since 2007.

It can be observed an increase in the percentage of countries using LRIC (passing from 55 per cent in 2007 to 64 per cent in 2008 and 2009), meaning that two countries have adopted LRIC since 2008. Correspondingly, a slight reduction in the percentage of countries using FDC is observed (passing from 36 per cent in 2007 to 32 per cent in 2008 and 2009). The percentage of countries declaring other methodologies decreased so that in 2008 and 2009 only one country declared to have another methodology in use[23].

Figure 6 - Accounting Methodology Unbundled Access Wholesale (Mkt 4, previously Mkt 11)



Source: IRG 2009 RA database
Number of countries: 22

3.3.3 Wholesale broadband access (Market 5, previously Market 12)

The new EC Recommendation on relevant markets defines Market 5 (previously Market 12) as the market for “wholesale broadband access”[24].

Also in this market all countries notified at least one operator in the first round of market analysis. Typically the notified operator is the national incumbent with the exceptions of one NRA that defined sub-national geographic market identifying the corresponding local incumbent operators as having SMP in these markets.

[23] The accounting methodology declared is EDC.

[24] The Recommendation clarifies that “*This market comprises non-physical or virtual network access including ‘bit-stream’ access at a fixed location. This market is situated downstream from the physical access covered by market 4 listed above, in that wholesale broadband access can be constructed using this input combined with other elements*”.

The following figures show data respectively for 14 and 13 countries that provided the relevant information since 2007. On the contrary, the number of countries considered in Figure 2 for this market is 16.

Summary

CCA is, by far, the most common cost base in 2009 (71 per cent).

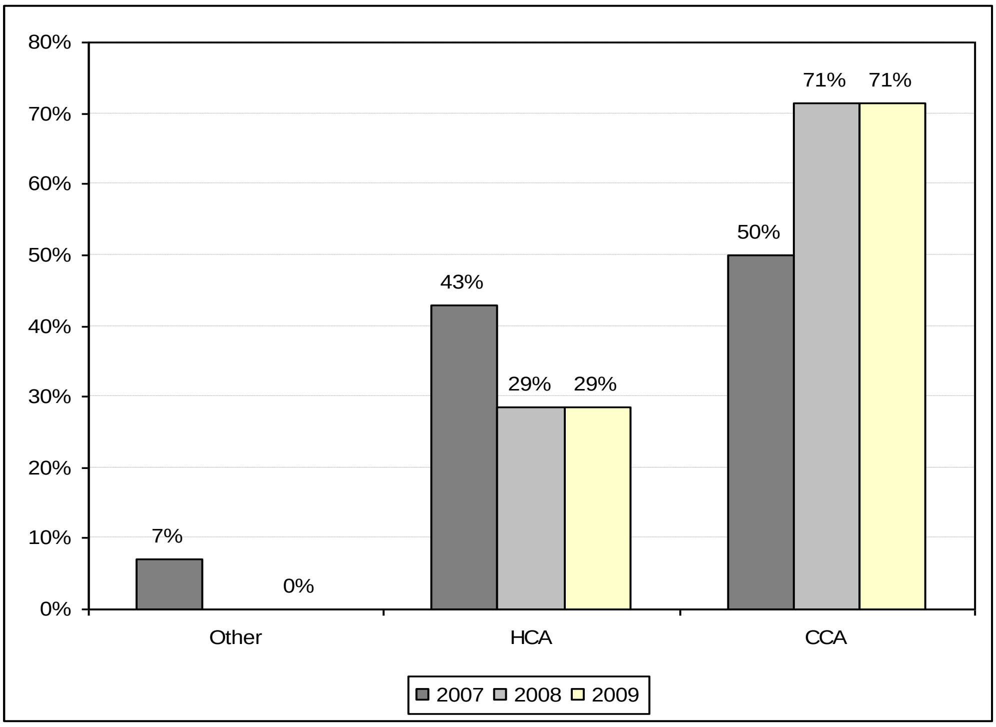
Trend analysis:

Cost base

Figure 7 shows that the market for wholesale unbundled access shows a similar trend in terms of the cost base used to that of the unbundling market. Also in this case it can be observed that CCA is by far the most commonly used cost base methodology and its use increased from 50 per cent to 71 per cent in 2008 and 2009, whereas HCA shows an associated reduction in the same time frame (from 43 per cent to 29 per cent).

However this market is characterised by the prevailing use of network elements subject to rapid technological change, whose asset valuation consequently should decrease using a CCA cost base.

Figure 7 - Cost Base Wholesale Broadband Access (Mkt 5, previously Mkt 12)

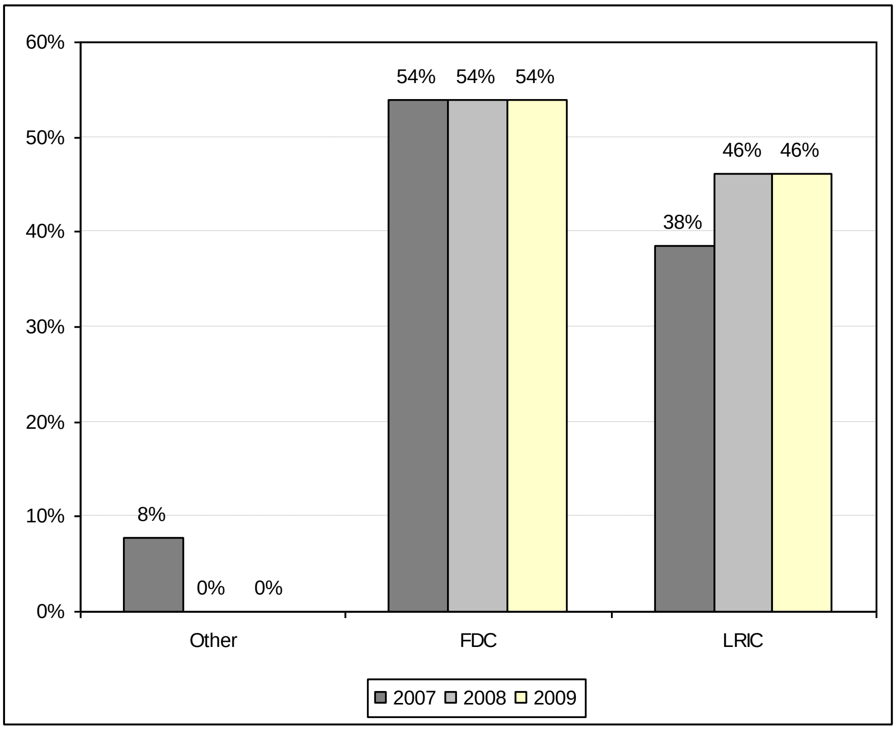


Source: IRG 2009 RA database
Number of countries: 14

Accounting methodology

Figure 8 shows the accounting methodology used in the wholesale broadband access market. Also in this case it can be observed that one additional NRA since 2007 passed from "other accounting methodology" to LRIC.

Figure 8 - Accounting Methodology Wholesale Broadband Access (Mkt 5, previously Mkt 12)



Source: IRG 2009 RA database
Number of countries: 13

3.3.4 Leased Lines Terminating Segment (Market 6, previously Market 13)

The new EC Recommendation on relevant markets defines Market 6 (previously Market 13) as the market for "Wholesale terminating segments of leased lines, irrespective of the technology used to provide leased or dedicated capacity".

All countries notified at least one operator in the first round of market analysis[25]. Typically the notified operator is the national incumbent with the exceptions of one NRA that defined sub-national geographic market identifying the corresponding local incumbent operators as having SMP in this markets.

Unlike Figure 2, which shows data for 20 countries, the figures below show data for those NRAs that provided the relevant information since 2006, therefore they show data for 11 countries.

Summary

CCA is the most common cost base method while FDC is the prevailing accounting methodology since 2006.

[25] An exception is Lithuania where the NRA notified the incumbent only in the market of wholesale terminating segments of low speed leased lines, whereas did not find any SMP operator in the market of wholesale terminating segments of high speed leased lines.

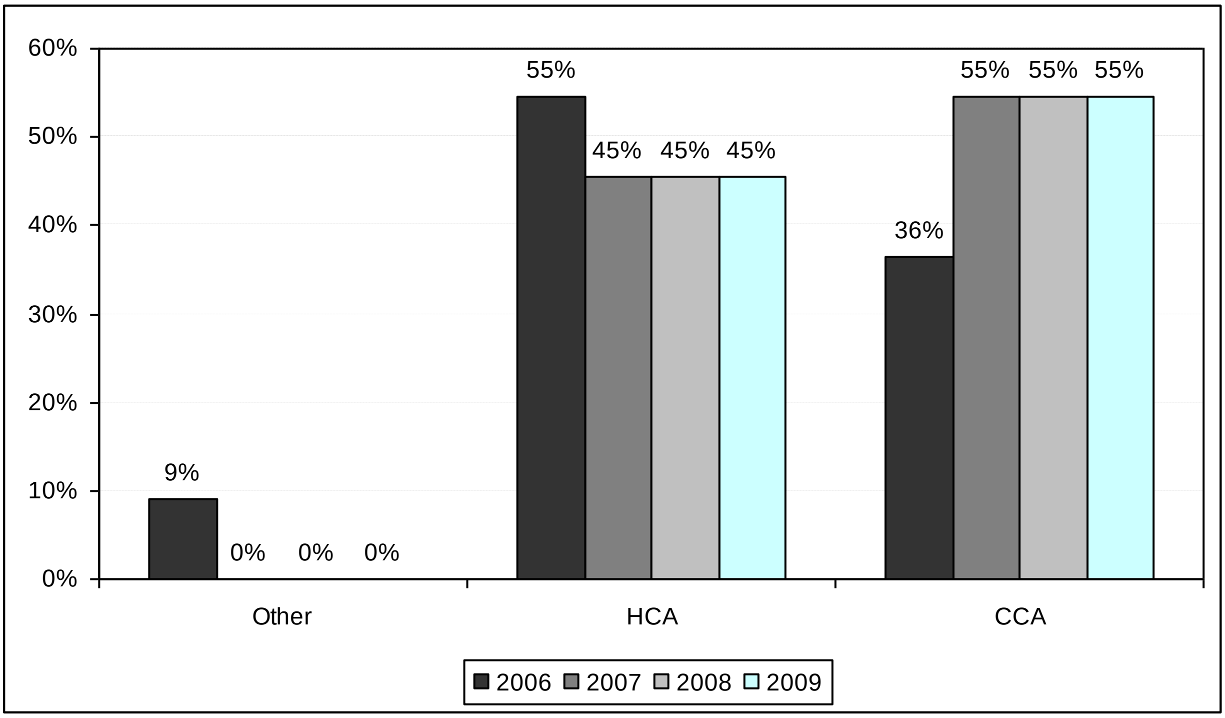
Trend analysis:

Cost base

Figure 9 shows the percentage of countries adopting CCA, HCA or a combination of other accounting methodologies to set leased line charges for the terminating segments from 2006 to 2009. In 2006 the most commonly used cost base was HCA (55 per cent, representing six countries), but its usage has decreased since 2007 (45 per cent, representing five countries) in favour of CCA. The percentage of countries declaring using CCA is fix to 55 per cent (six countries) since 2007.

As far as the cost base is concerned, the results are similar to those made for the wholesale ULL market.

Figure 9 - Cost Base Leased Lines Terminating Segment (Mkt 6, previously Mkt 13)



Source: IRG 2009 RA database
Number of countries: 11

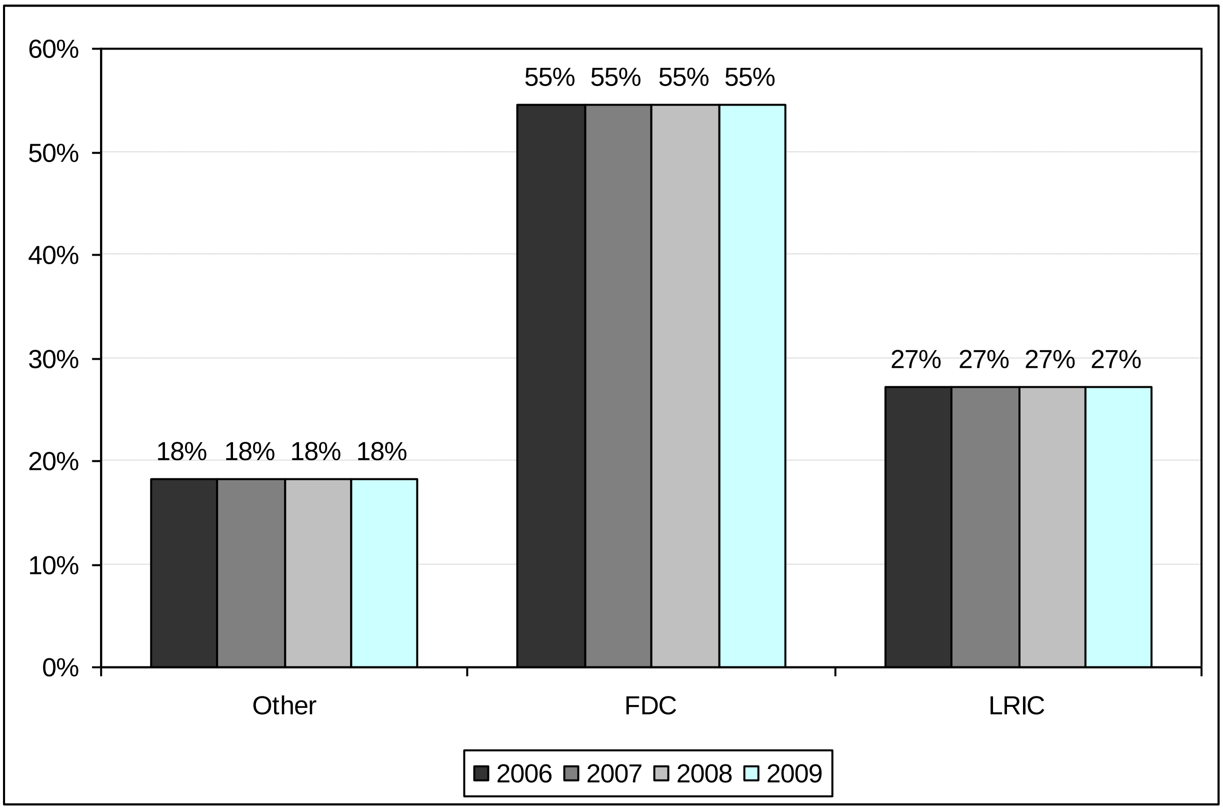
Accounting methodology

Figure 10 shows the percentages of countries adopting LRIC, FDC or other mixed allocation methodologies in the leased line (LL) wholesale terminating segment for the four year period under analysis.

The most common accounting methodology in the leased line wholesale terminating market is FDC (55 per cent), this percentage is stable since 2006. At the same time, the percentage of countries using LRIC or mixed methodologies is stable over time and is fix respectively to 27 per cent and 18 per cent[26].

[26] As far as the other methodologies are concerned, one country declared to use EDC, while another one declared to use adjusted FDC, taking into account efficiency adjustments.

Figure 10 - Accounting Methodology LL Terminating Segment (Mkt 6, previously Mkt 13)



Source: IRG 2009 RA database
Number of countries: 11

3.3.5 Mobile call termination (Market 7, previously Market 16)

The new EC Recommendation on relevant markets defines Market 7 (previously Market 16) as the market for “Voice call termination on individual mobile networks” and identifies a relevant market for each operator. This implies that in all countries all mobile operators have SMP in the termination market.

Unlike Figure 2 which, for Market 16 shows data for 24 countries, the figures below show data for those NRAs that provided the relevant information since 2006, therefore they show data for 15 countries.

Summary

CCA is the preferred cost base for this market combined with LRIC or LRIC variant as the costing methodology. The trend analysis suggest that the development of costing tools is still relatively new and NRAs will first use established cost data (HCA) and more straightforward costing methods (FDC) before moving on to the more technically challenging concepts of CCA and LRIC.

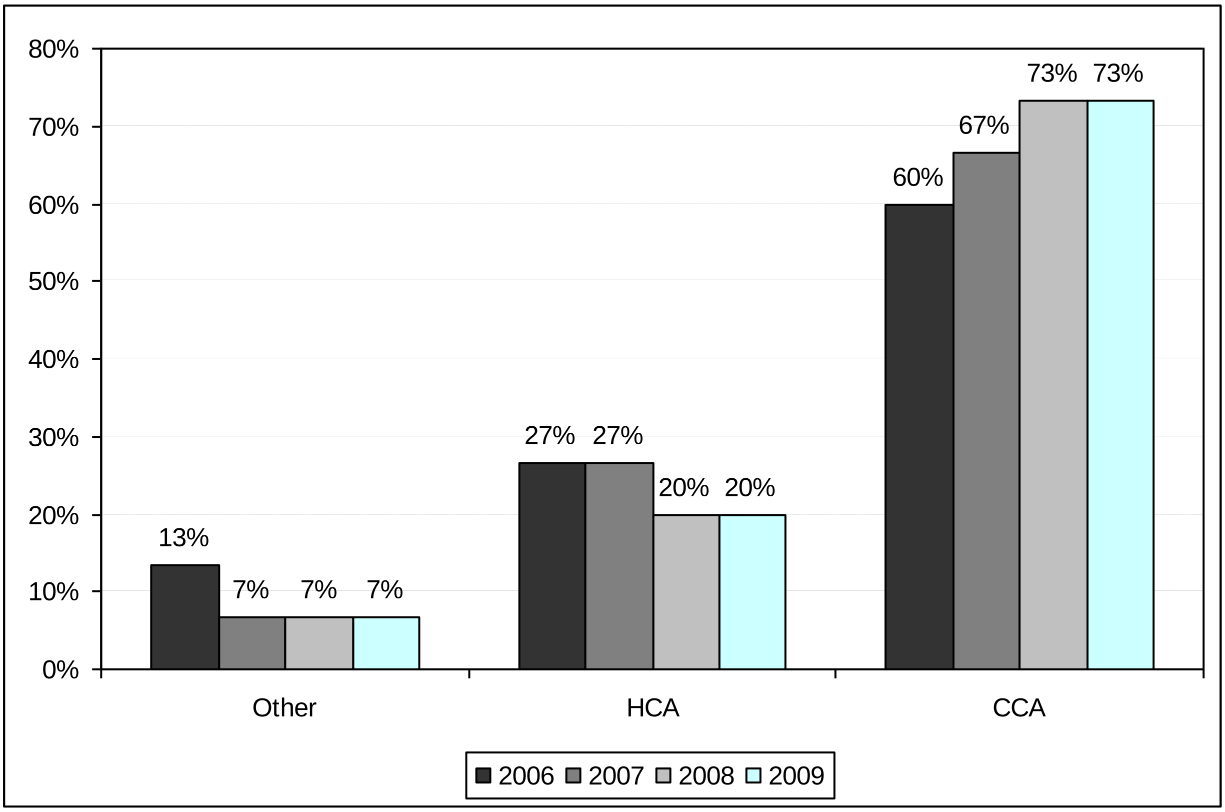
Trend analysis:

Cost base

Figure 11 shows the percentage of countries adopting CCA, HCA or a combination of accounting methodologies to set mobile interconnection terminating charges in 2006, 2007, 2008 and 2009.

Since 2006 the most commonly used cost base for mobile networks is CCA. In 2008 the percentage of countries using CCA further increased, passing from 67 per cent (10 countries) in 2007 to 73 per cent (11 countries) in 2008; this percentage is observed also for year 2009.
On the other hand, the percentage of countries using HCA decreased from 27 per cent (4 countries) in 2006 and 2007 to 20 per cent (3 countries) in 2008 and 2009, while the percentage of countries using other mixed methodologies remained unchanged since 2007 (only 1 country[27]).

Figure 11 - Cost Base Mobile Call Termination (Mkt 7, previously Mkt 16)



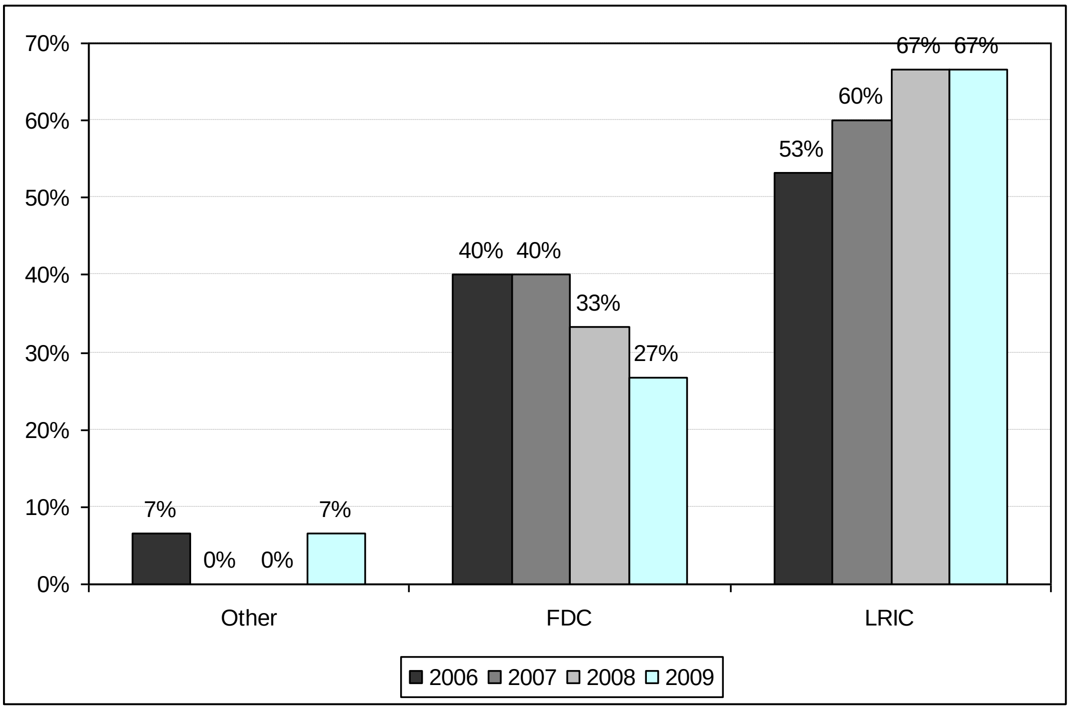
Source: IRG 2009 RA database
Number of countries: 15

Accounting methodology

Figure 12 shows the percentages of countries using LRIC, FDC or other mixed methodologies as the costing methodology for call termination in mobile networks during the four year period.
In the mobile sector the most commonly used accounting methodology is LRIC. The percentage of countries using this methodology increased over time, passing from 53 per cent (8 countries) in 2006 to 60 per cent in 2007 and 67 per cent (10 countries) in 2008 and 2009. In the same time frame, the percentage of countries using FDC decreased from 40 per cent (6 countries) in the first two years under observation to 33 per cent (5 countries) in 2008, to reach 27 per cent value (4 countries) in 2009.

[27] In particular this Country uses CCA method for network assets and HCA method for non network assets (vehicles, real estate, machinery, liquid assets, etc.).

Figure 12 - Accounting methodology Mobile Call Termination (Mkt 7, previously Mkt 16)



Source: IRG 2009 RA database
Number of countries: 15

In conclusion, the analysis of mobile termination market shows a stabilisation at a high level in the use of both CCA and LRIC.

GENERAL CONCLUSIONS

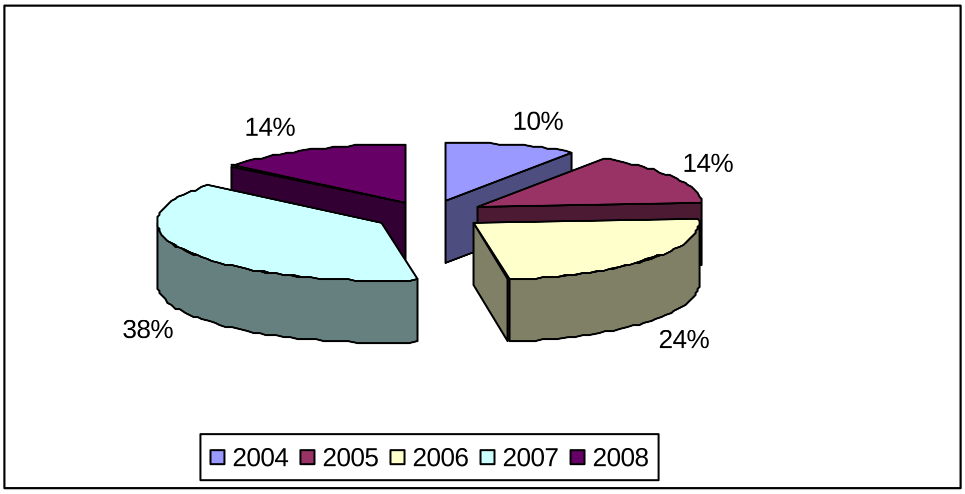
The analysis of the costing methodologies used by member states shows generally a trend towards CCA/LRIC stabilizing at a high level (which could indicate a permanent value). This confirms the trend towards a harmonised use of CCA/LRIC considered to be best practice. However, some parameters (e.g. depreciation methods and periods) are set at different values, generally for reasons related to national circumstances. It could be useful to investigate more in depth, in the future, how far further alignment could be achievable.

4. The auditing process

Data collected from NRAs concern also the accounting separation. As article 13 of Directive 2002/19/EC predicts, the compliance of the incumbent's accounting system should be verified by a qualified independent body.

According to 2009 data, for 52 per cent NRAs[28], the last year audited was 2007 or 2008 (Figure 13). Only 10 per cent countries declared 2004 as the last year audited.

Figure 13 - Last year audited - 2009



Source: IRG 2009 RA database
Number of countries: 21

Comparing 2008 and 2009 data[29], it can be observed that for more than 50 per cent of the countries the auditing process progressed by at least a year. Table 3, is an origin-destination table showing respectively in rows and column the last audited year as declared by NRAs in 2008 and 2009 data. Two countries that last year declared that the last year audited was 2004 and 2006, this year declared respectively 2006 and 2008, accelerating the auditing process. Eight NRAs have now audited data for 2007 rather than for 2006 and two NRAs have up to date for 2008.

[28] Percentages are calculated on countries with no missing data on this topic.
[29] The comparison takes into account only those countries with no missing data in 2008 nor 2009.

Table 3 – Comparison between 2008 and 2009 data

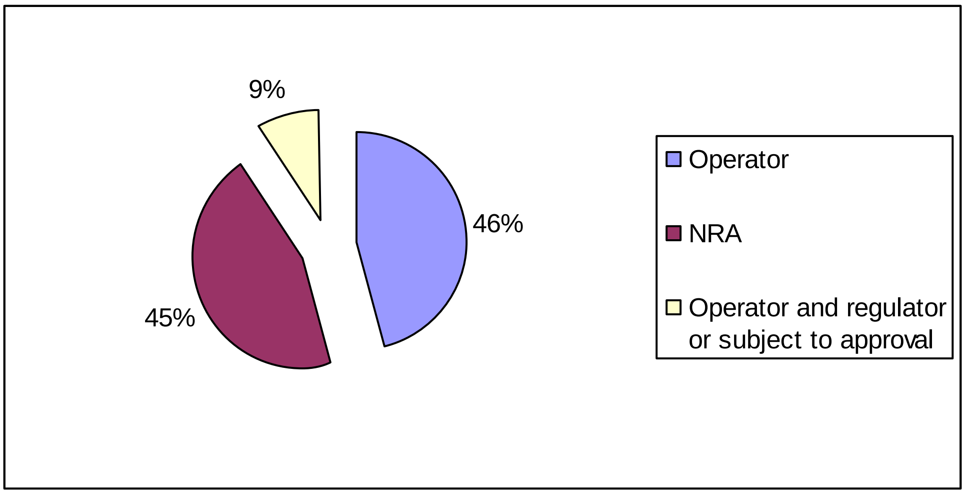
	Last audited Year 2009					
Last audited Year 2008	2004	2005	2006	2007	2008	Total
2004	2		1			3
2005		2				2
2006			2	8	1	11
2007				1	2	3
Total	2	2	3	9	3	19

Source: IRG 2009 RA database
Number of countries: 19

In terms of the audit process, several national and international firms were identified as the independent auditor to the last set of audited financial statements, though 13 per cent NRAs declared to carry out the auditing process internally.

The choice of the auditor firm varies from country to country (Figure 14). In 2009, in 46 per cent of the cases it is up to the operator to choose it. On the contrary, in 45 per cent of the cases the decision is up to the NRA. In around 10 per cent cases the auditor firm is subject to NRA's approval or it is chosen jointly by the operator and the NRA.

Figure 14 – Auditor chosen by



Source: IRG 2009 RA database
Number of countries: 22

As far as confidentiality of accounting data is concerned, 36 per cent of the NRAs declared to have access to the incumbents' operative cost accounting system in use; 64 per cent of the NRAs declared to not have access to the incumbents' operative cost accounting system in use, although some of them can ask specific detailed information to the incumbent or can have access only in exceptional circumstances.

5. Results of the qualitative investigation

The purpose of the qualitative questionnaire is to provide qualitative background and context to the methods and applications of regulatory accounting data. The findings will help to identify some of the main factors that determine the observed differences in interconnection tariffs and other tariffs across the EU member states, despite the harmonization of cost base and accounting methodologies. These differences in tariffs can then be attributed to “real” cost differences due to different national topographies or usage patterns etc.

All but one NRA make a distinction between fixed and mobile markets. Following this distinction the results are being displayed in two separate questionnaires, one covering the fixed market and one covering the mobile market.

Both questionnaires were sent out to 31 countries. In total 21 NRAs replied to the fixed market questionnaire (68 per cent response rate) and 16 NRAs to the mobile market questionnaire (52 per cent response rate). The difference in the rate of response to the mobile questionnaire compared to the fixed questionnaire is related to the utilisation of cost models for the purpose of setting regulated tariffs. Not all NRAs replied to all questions, but most questions have been answered, so that a relatively sound relation to the total number of respondents can be assured.

5.1 Fixed market

NRAs were asked which type of cost model they use to monitor compliance with no undue discrimination obligation and/or cost orientation. A summary of the replies is reported in Figure 15 and Figure 16 below.

The replies show that cost models do not serve these purposes to a major extend. The outcome of the preceding chapters of this report illustrates that the use of cost models is widespread among the NRAs. For the purposes of monitoring compliance with no undue discrimination though cost models do not seem to be a popular tool. The proportion of countries using cost models as well as the frequency of usage to monitor compliance with cost orientation is slightly higher than the proportion using cost models to monitor compliance with no undue discrimination obligation.

If cost models are being used for these purposes, then there is clear preference for the top-down model. Bottom-up cost models are used much more selectively to examine cost orientation.

Figure 15 - Type of model used to monitor compliance with no undue discrimination

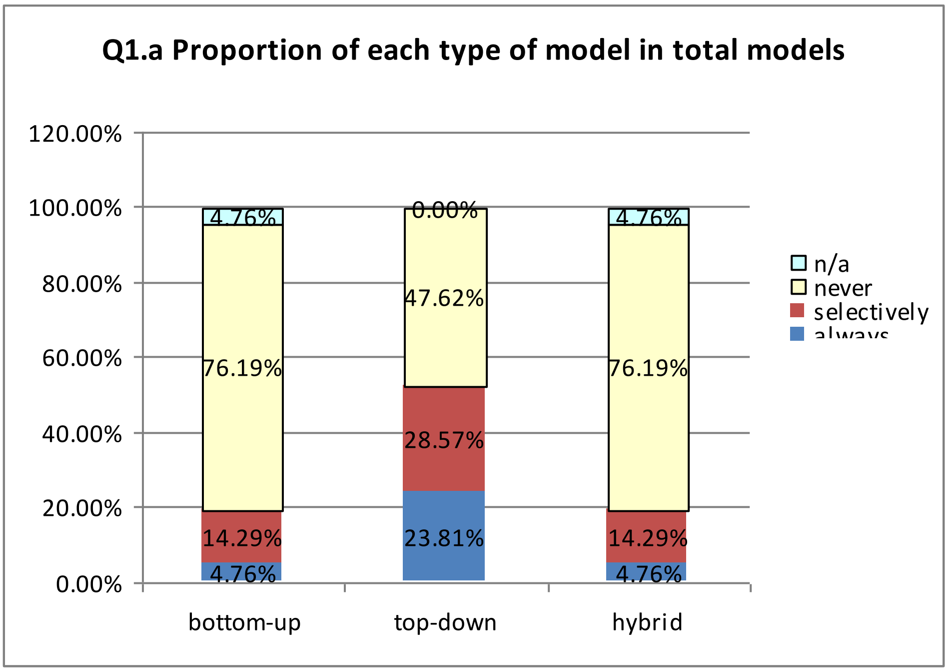
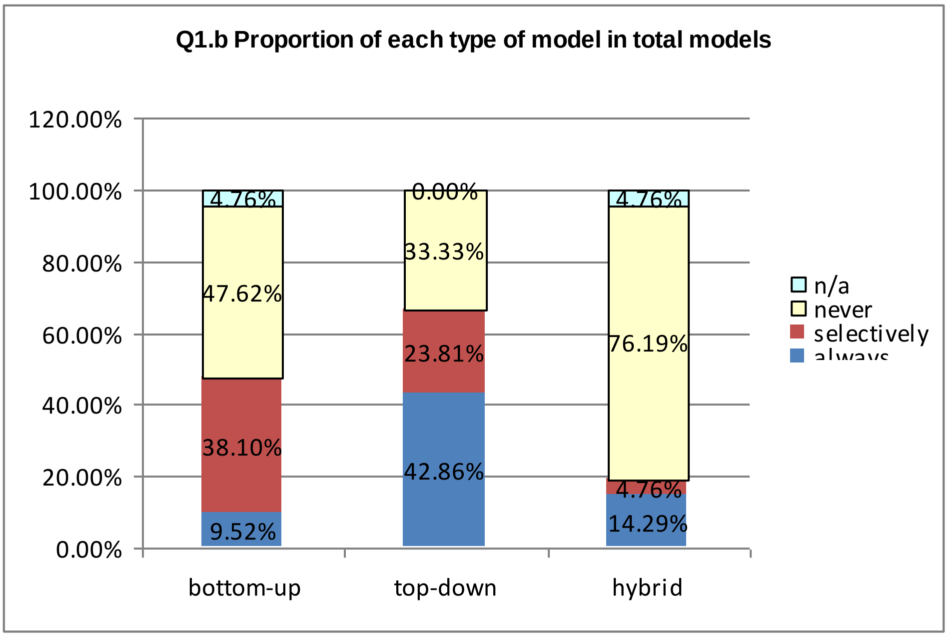
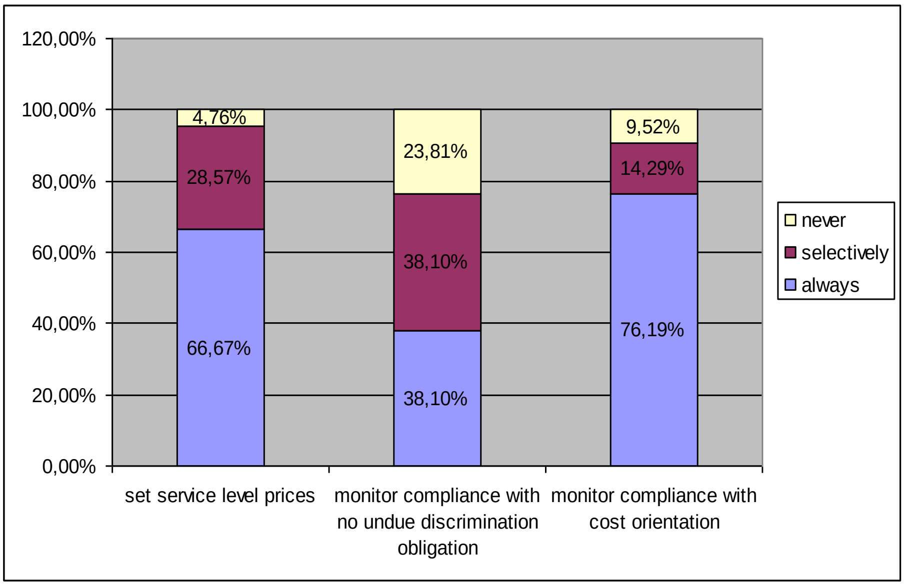


Figure 16 - Type of model used to monitor compliance with cost orientation



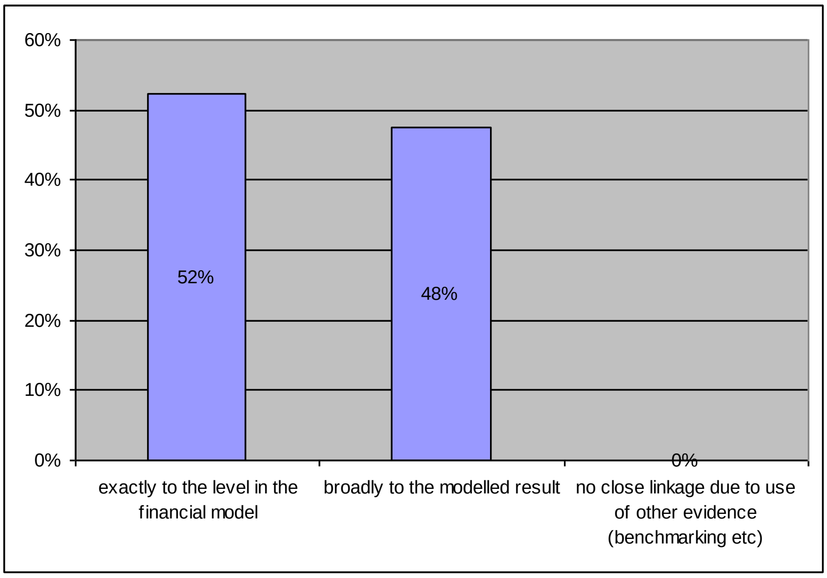
Regarding the extent to which the output of cost models are used, the outcome of the questionnaire, reported in Figure 17, shows that cost models mostly serve the purpose of monitoring compliance with cost orientation (76 per cent). They are also widely being used to set service level prices (67 per cent). A smaller proportion monitors compliance with no undue discrimination obligation based on the output of cost models.

Figure 17 - Purpose of the cost model



Regarding the precision with which regulated prices are set as per the financial[30] model (Figure 18), 52 per cent of the respondents set regulated prices exactly to the level in the financial model, 48 per cent of the respondents set regulated prices broadly to the modelled result. Other evidence, e.g. benchmarking, is of no significance.

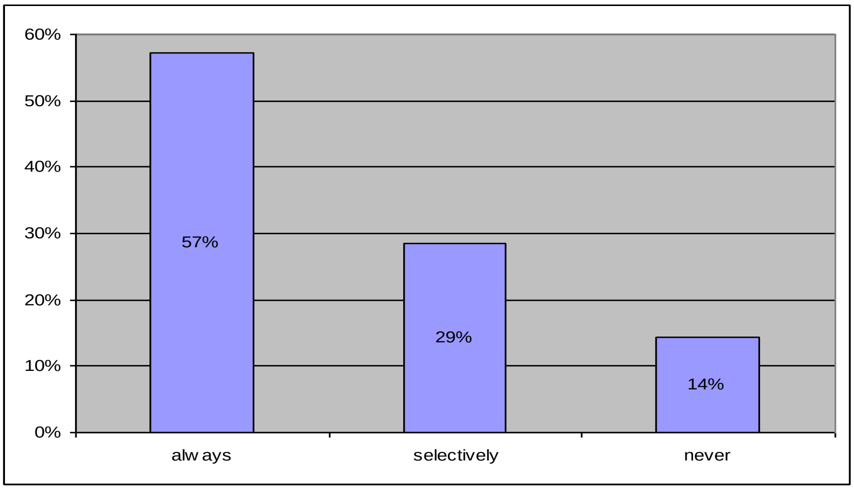
Figure 18 - Degree of similarity of prices to model results



The concept of a relevant efficient operator on financial modelling is always being applied by almost 60 per cent of the respondents (57 per cent). One third of the respondents selectively apply this concept, 14 per cent never do (Figure 19).

[30] The terms financial and cost model are being used interchangeably.

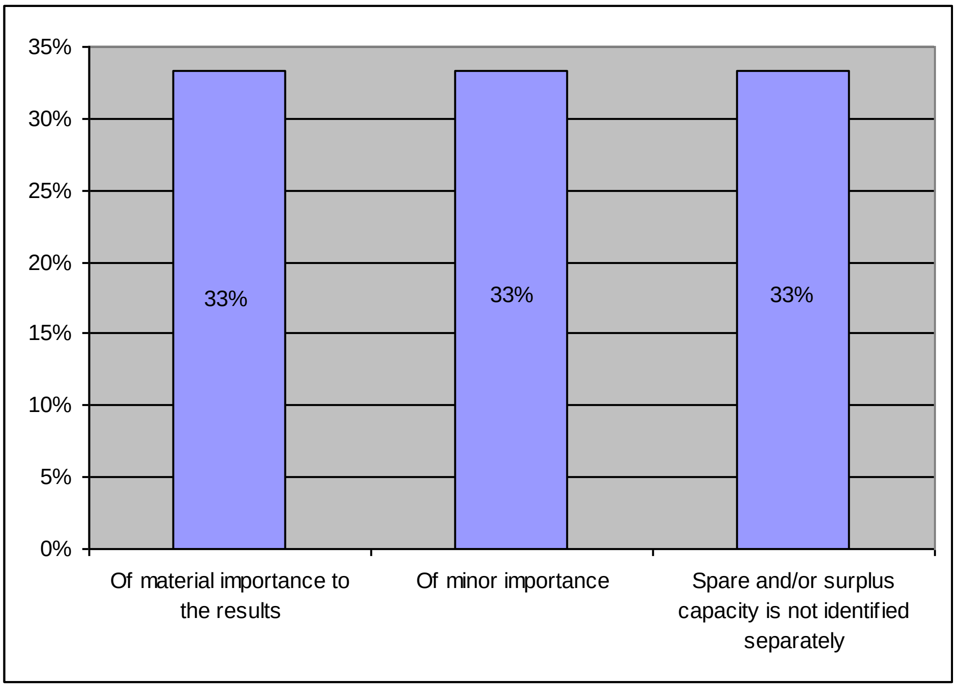
Figure 19 - Use of efficient operator concept in financial modelling



All responding NRAs consider economies of scale and economies of scope of SMP operators as being significant in cost modelling.

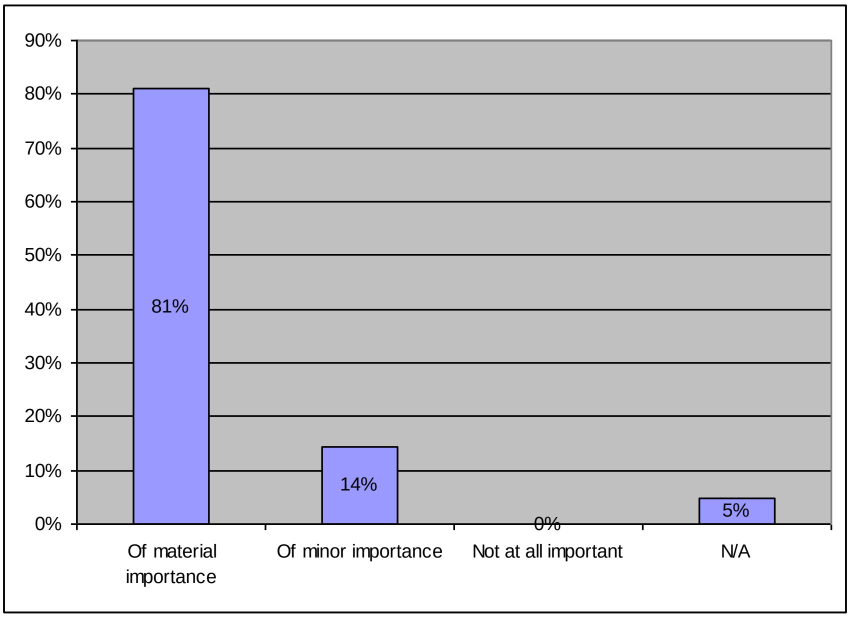
The explicit identification of spare and/or surplus capacity (Figure 20) is being considered in equal proportion to be of material importance, of minor importance or not identified separately (33 per cent each). In order to avoid misinterpretation some explanation is given here. For some NRAs spare or surplus capacity is only taken into account if it represents efficient costs. If put the other way round, spare or surplus capacity can be excluded in case it is deemed inefficient. The importance of spare or surplus capacity is being considered differently though, even if it is not identified separately. Some NRAs do not allow surplus capacity, but due to technical constraints (non-scalability of some components) it is being counted in though and regarded as of minor importance. However another NRA considers spare or surplus capacity as of material importance but only if it relates to technical matters.

Figure 20 - Importance of spare/surplus capacity



The use of the modern equivalent asset (MEA) concept in regulatory accounting is of material importance for 81 per cent of the responding NRAs. Only 14 per cent replied that it is of minor importance. For 5 per cent of the respondents the MEA concept is not applicable (Figure 21).

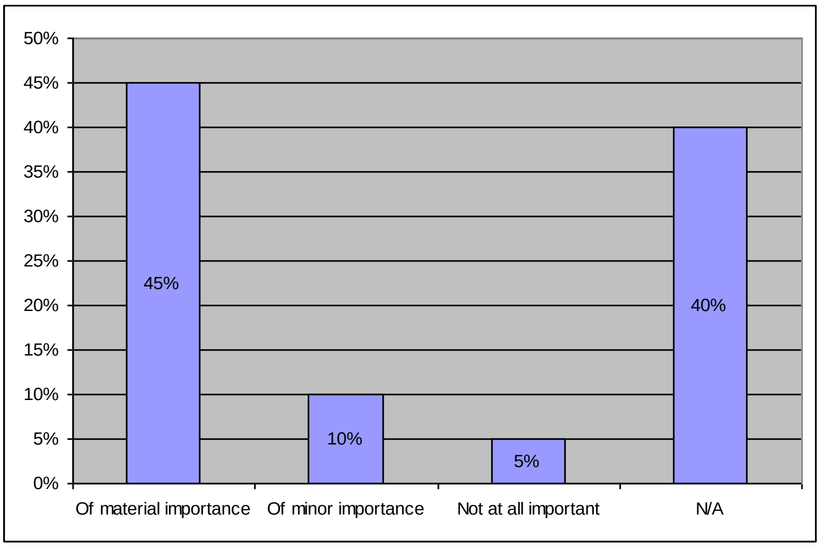
Figure 21 - Importance of MEA concept in RA



The determination of asset lives and depreciation profile in each country's model is of material importance for a vast majority of the responding NRAs (90 per cent). Only a small portion regards the determination of asset lives and depreciation profile as being a minor factor (10 per cent).

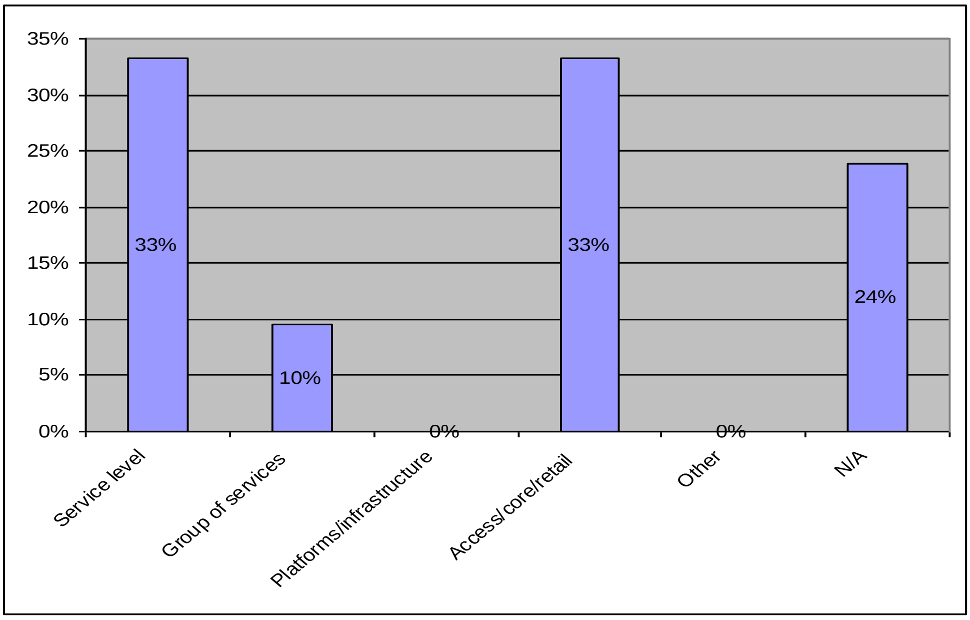
When using operational capital maintenance (OCM)/financial capital maintenance (FCM) the calculation of holding gains and losses is of material importance to almost half of the respondents (Figure 22). To 40 per cent of the responding NRAs this is not applicable while 10 per cent regard it to be of just minor importance and 5 per cent not at all important.

Figure 22 - Importance of OCM/FCM



NRAs were asked at what level they define the increment when designing LRIC models (Figure 23). The outcome shows preferences for defining the increment at service level and access/core/retail level, each representing 33 per cent of the responding NRAs. For almost one quarter of the respondents defining the increment is not applicable. 10 per cent of the respondents define the increment at group of services level.

Figure 23 - Level of increment definition in LRIC models



Underlying the use of LRIC models, the main assumption regarding the recovery of LRIC common costs is the use of equal proportionate mark-up (71 per cent of respondents). Only 10 per cent of the NRAs use other methods while 19 per cent replied that the recovery of LRIC common costs is not applicable (e.g. because LRIC is not being used but instead fully distributed costs based on historic costs).

Material costs incurred by an operator can be excluded from cost modelling for particular services. A little more than half of the responding NRAs (53 per cent) exclude costs related to retail activities when looking at wholesale markets, retirement programs, inefficient operating costs[31] etc. 50 per cent of the excluded costs relate to redundancy payments. The rest of the responding NRAs (47 per cent) does not exclude any costs.

Further information on variables that have a significant impact on the model results were provided by a total of five countries. The estimation of volumes is said to have an impact on the future estimation of e.g. traffic and number of lines, which is being considered as very critical. Furthermore Activity Based Costing is being applied on all salary costs in one member state. Another member state regards WACC as well as the scorched node/scorched earth/modified scorched node choice having a significant impact. Also asset lives is being considered to have an impact since the decrease of asset lives increases costs and vice versa.

5.2 Mobile market

Different types of cost models can be used to monitor compliance with no undue discrimination obligation and/or cost orientation also for mobile markets (Figure 24 and Figure 25). The outcome of the questionnaire shows a similar picture to the fixed market: cost models rather serve to monitor compliance with cost orientation for the majority of the responding NRAs. If cost models are used, then the top-down model is clearly preferred to monitor compliance with no undue discrimination obligation as well as cost orientation. Bottom-up (and hybrid) cost models are used by only 12.5 per cent of the responding NRAs to monitor compliance with cost orientation, none use bottom-up cost models to monitor compliance with no undue discrimination obligations on a regular basis, while 6.25 per cent of NRAs use hybrid cost models.

[31] Please refer to figures 19 and 20 and corresponding text regarding issues related to an efficient operator.

Figure 24 - Type of model used to monitor compliance with no undue discrimination

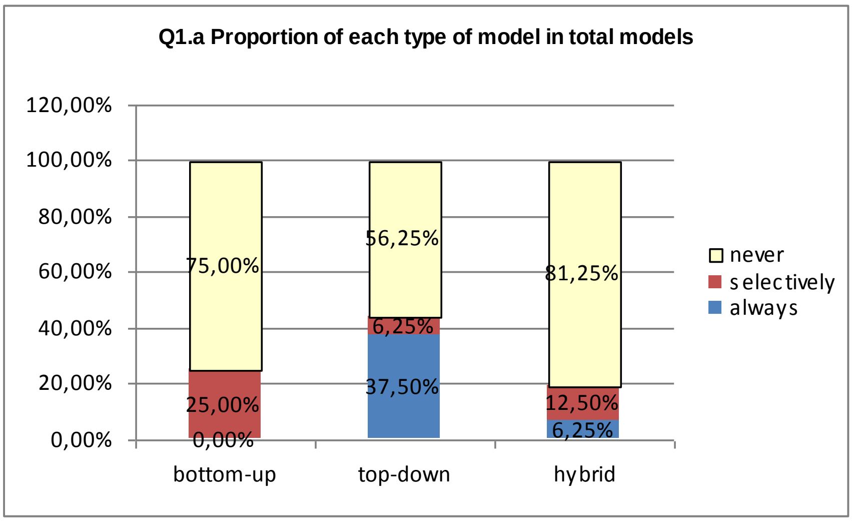
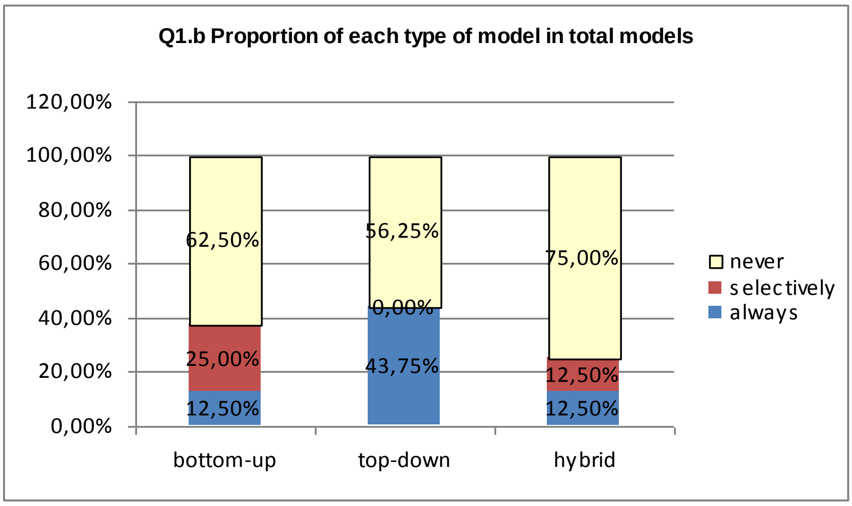


Figure 25 - Type of model used to monitor compliance with cost orientation

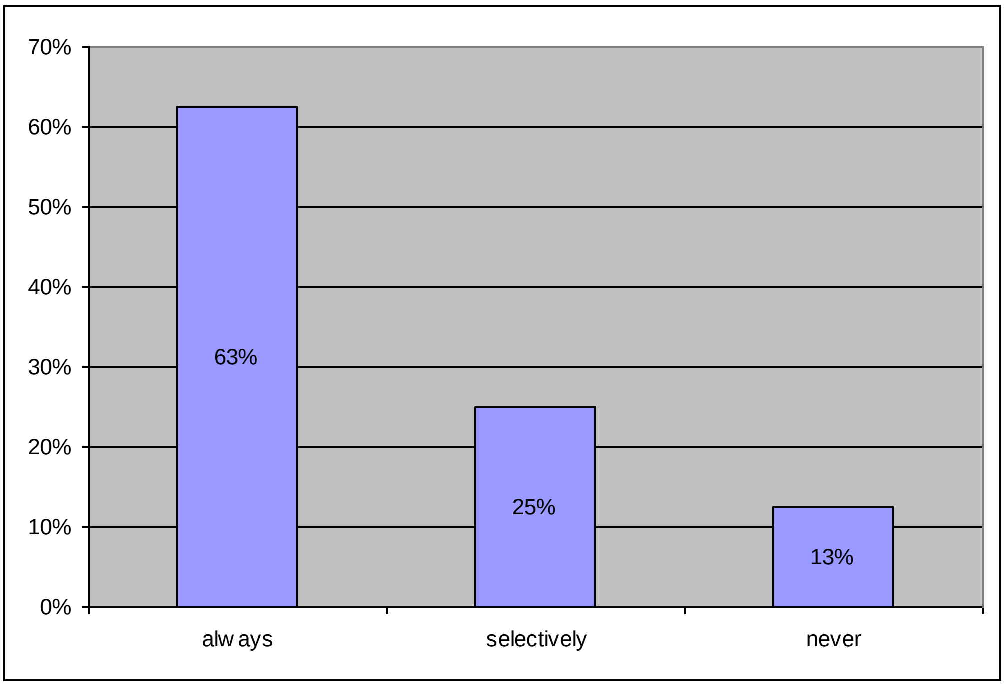


According to the results of the questionnaire, outputs from cost models are in most cases used to monitor compliance with cost orientation (62.5 per cent). Outputs from cost models are also used to set service level prices by over half of the responding NRAs. Only one third of the respondents use the outcome from cost models to monitor compliance with no undue discrimination obligation.

Regulated prices are being set exactly to the level in the financial model by half of the responding NRAs. Less than half of the respondents (44 per cent) set prices broadly to the modelled result. Other evidence is of no significance.

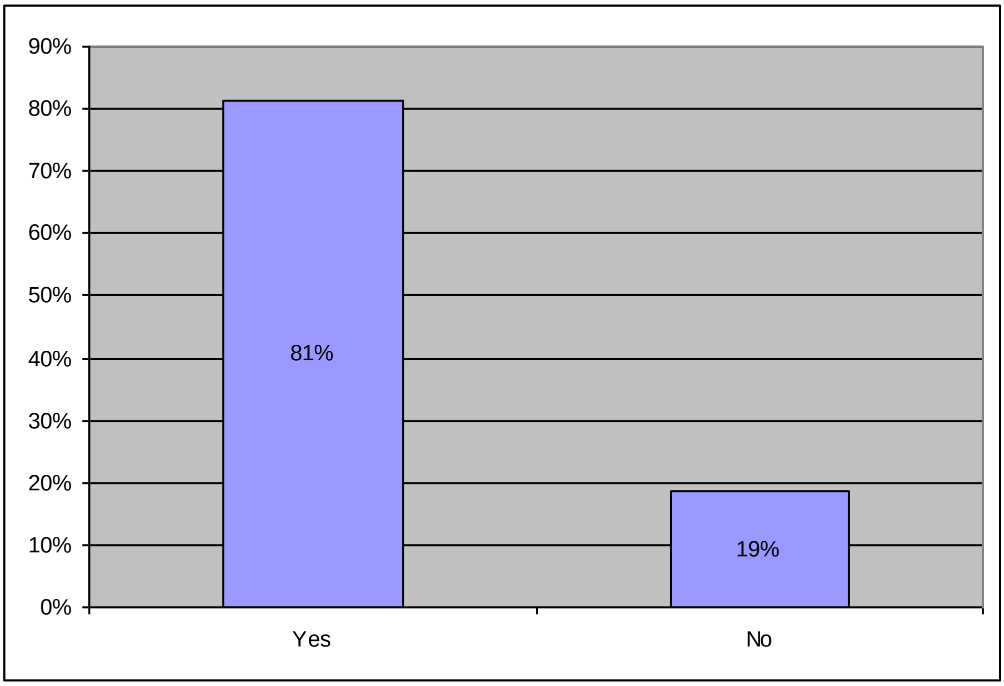
For mobile services, 63 per cent of respondents always apply the concept of a relevant efficient operator in financial modelling, whereas 25 per cent apply this concept only selectively and 13 per cent never apply the concept (Figure 26).

Figure 26 - Use of efficient operator concept in financial modelling



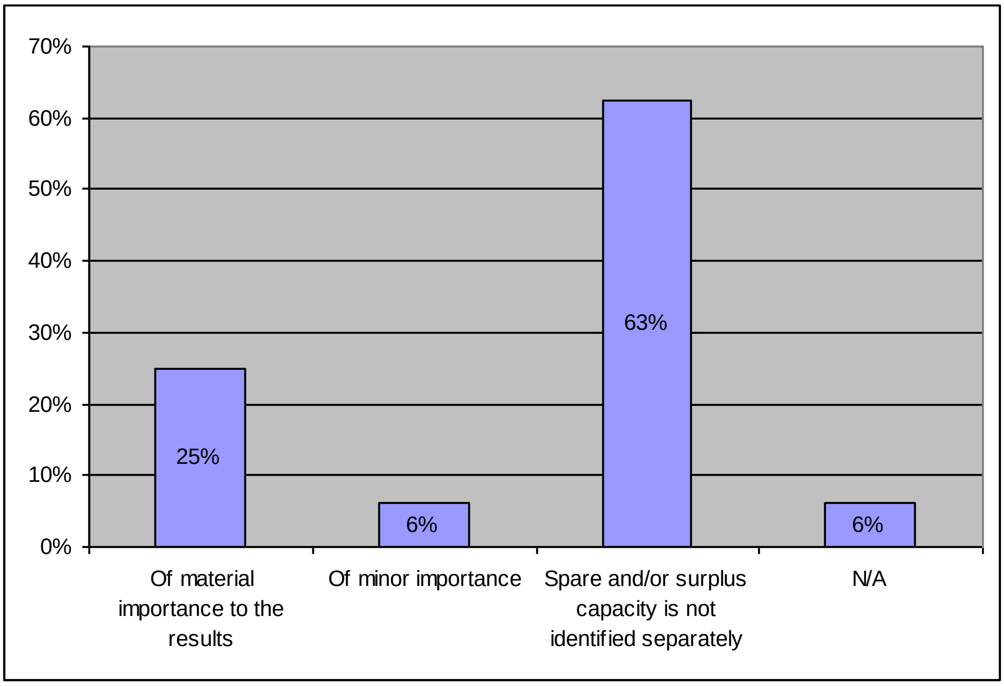
The majority of responding NRAs (81 per cent) believe economies of scale and scope available to SMP operators to be a significant factor in cost modelling (Figure 27).

Figure 27 - Significance of economies of scale/scope in cost modelling



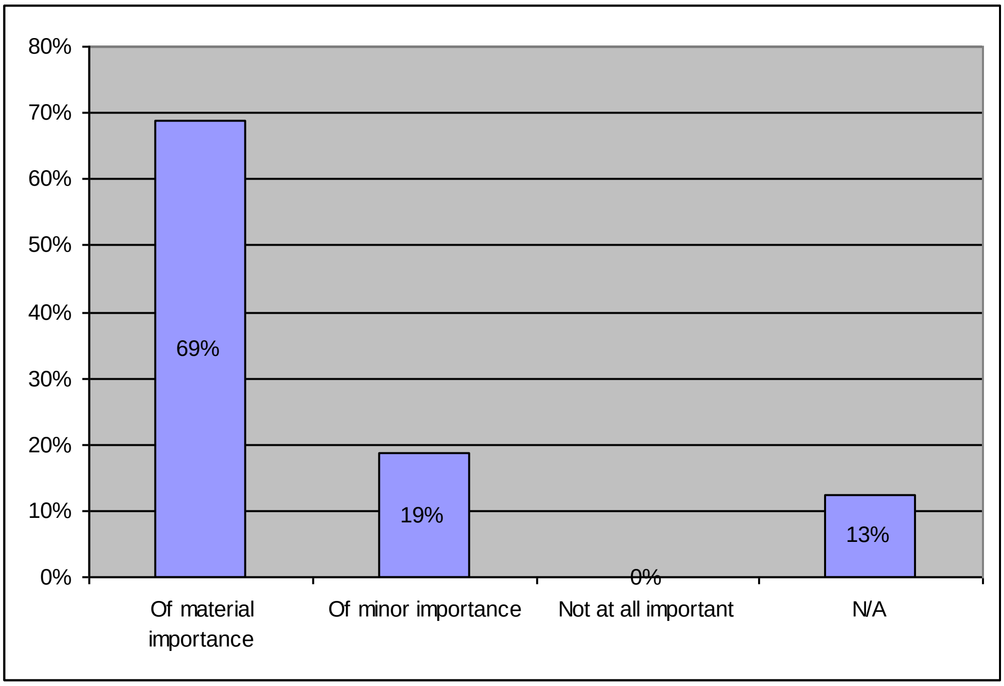
The explicit identification of spare and/or surplus capacity is not identified separately by 63 per cent of the responding NRAs (Figure 28). Conversely 25 per cent of NRAs regard it as being of material importance while 6 per cent of NRAs consider it to be of minor importance.

Figure 28 - Importance of spare/surplus capacity explicit identification



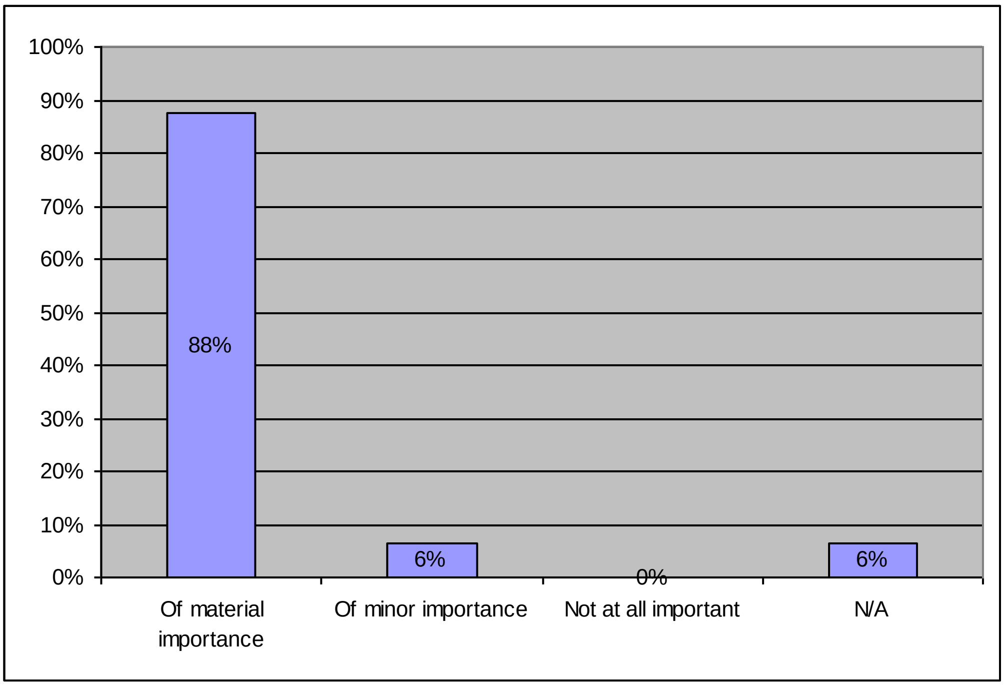
The use of the modern equivalent asset (MEA) concept in regulatory accounting is of material importance for 69 per cent of the responding NRAs (Figure 29). Only 19 per cent of NRAs replied that it is of minor importance. For 13 per cent of the respondents the MEA concept is not applicable.

Figure 29 - Importance of MEA concept in RA



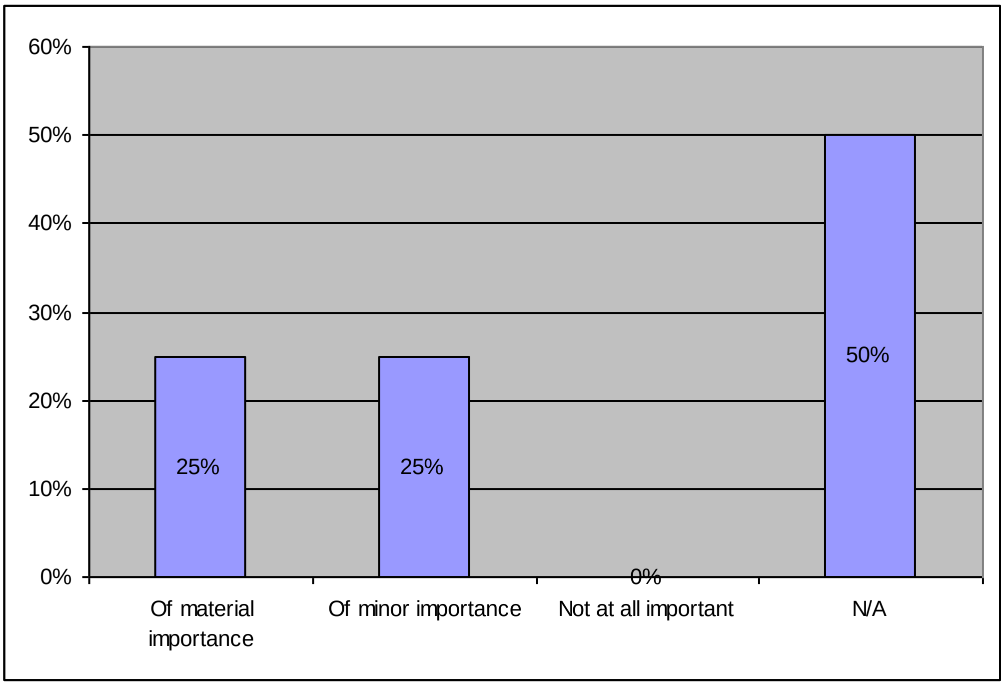
A vast majority of respondents (88 per cent) believes that the determination of asset lives and depreciation profile is of material importance in cost modelling (Figure 30).

Figure 30 - Importance of asset lives and depreciation profile determination



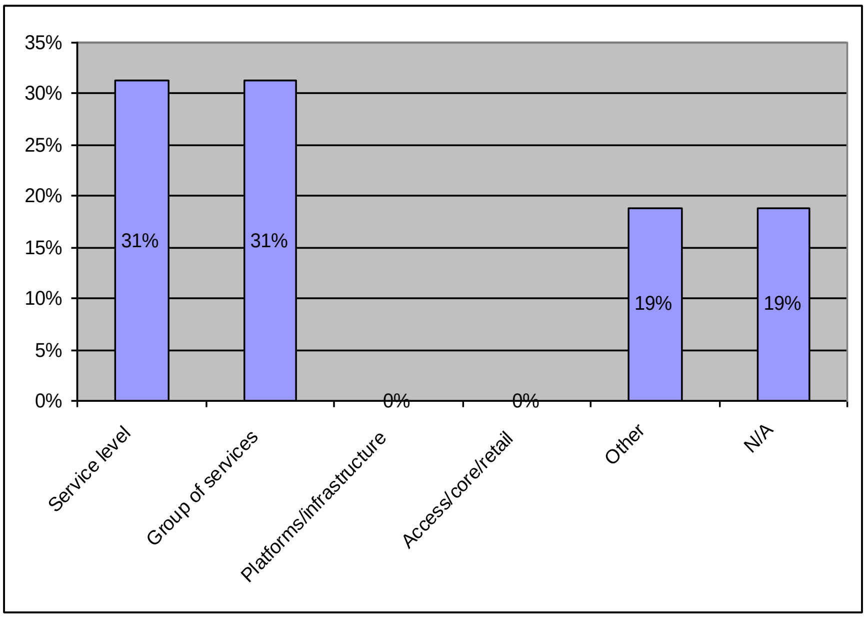
When using OCM/FCM the calculation of holding gains and losses is not applicable to half the respondents (50 per cent) and is of material/minor importance for an equal remaining proportion (25 per cent each) (Figure 31).

Figure 31 - Importance of OCM/FCM



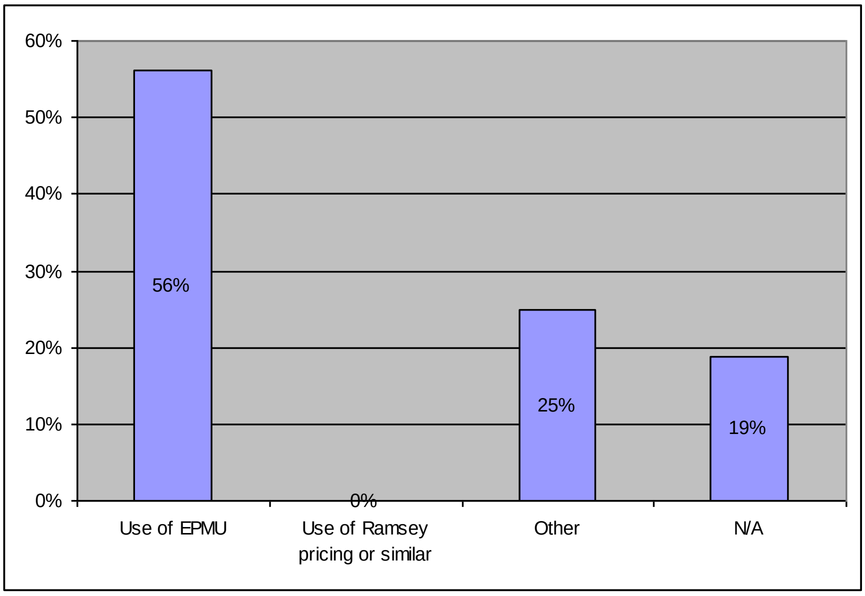
NRAs were asked at what level they define the increment when designing LRIC models (Figure 32). The outcome shows preferences for defining the increment at service level (31 per cent) and group of services (31 per cent).

Figure 32 - Level of increment definition in LRIC models



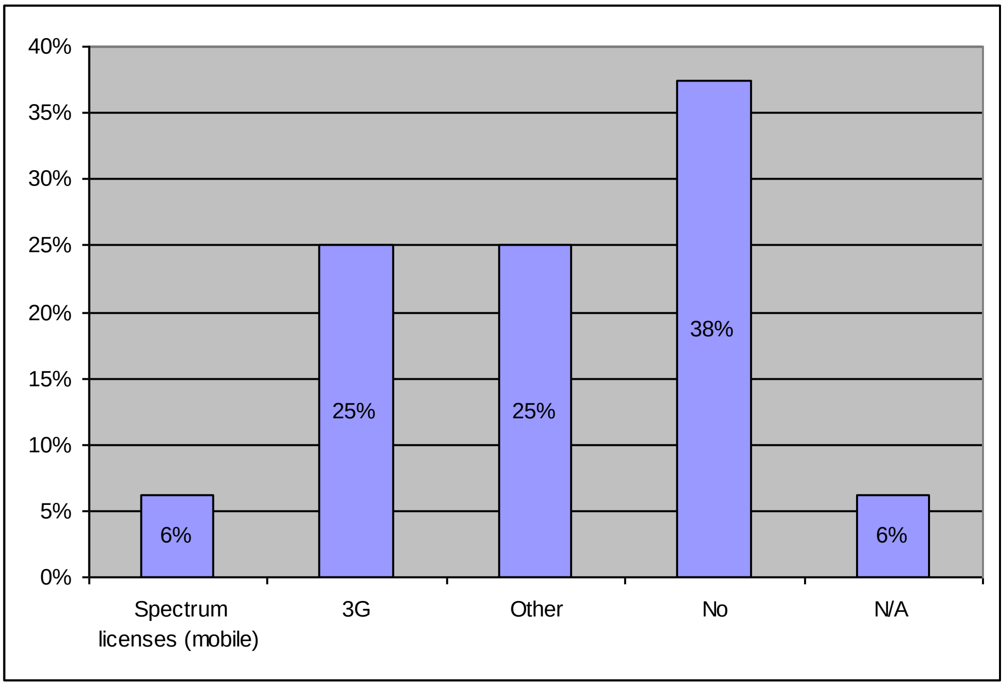
Underlying the use of LRIC models (Figure 33), the main assumption regarding the recovery of LRIC common costs is the use of equal proportionate mark-up (EPMU, 56 per cent of respondents). 25 per cent of NRAs use other methods, for 19 per cent the recovery of LRIC common costs is not applicable due to the utilisation of other methodologies.

Figure 33 - Assumptions for LRIC common costs's recovery



Material costs incurred by an operator can be excluded from cost modelling for particular services (Figure 34). 38 per cent of the responding NRAs do not exclude any costs, 25 per cent each exclude costs relating to 3G or other costs. Only 6 per cent exclude spectrum licenses. Some NRAs are stricter than others with regard to the exclusion of non-relevant costs. Depending on the degree of efficiency to be reached over the review period, different treatments with regard to adjustments for spare/surplus capacity can be observed.[32]

Figure 34 - Exclusion of material costs



Further information on variables that have a significant impact on the model results were provided by a total of five countries. The importance of different parameters (such as asset lives, depreciation periods etc.) and their treatment may vary across countries.

[32] Please see figures 26 and 27 and corresponding text regarding efficiency issues.

6. The weighted average cost of capital

The 2008 report showed that the parameters used by different countries to calculate the WACC did not change sensibly compared to the previous year.
The purpose of this year's Report, as far as WACC is concerned, is to verify whether NRAs are considering to, or have already modified, the WACC as a consequence of September 2008 financial turmoil.
The cost of capital is the reward investors expect for taking risk. Therefore if investors become more risk adverse, companies have more difficulties in raising capital and may need to cancel or, at least, defer some investments.
The financial crises produced two opposite short term effects: on one side it determined a sharp decrease in interest rates, while on the other side it caused a strong credit crunch arising from the increased spread that banks are requiring on top of the official rate. Hence, before deciding whether and how to change the WACC parameters, NRAs should be able to assess which of the two effects prevailed. Moreover NRAs should be able to ensure that the new WACC is a forward looking rate of return commensurate with prevailing conditions in the market.
So far the financial crisis did not lead to any major changes in the WACC. BNetzA calculated in its decision approving the LLU price on 31 March 2009 a slightly lower rate of 7.19 per cent (8.07 per cent in 2007). While, due to the increased dept risk premium of DTAG the interest rate rose to now 6.22 per cent (previously 5.37 per cent), BNetzA recognised considerably higher cost of debt in view of the financial crisis, which on the other hand led to a fall in the return on equity to just under 15 per cent. In addition, the effects of the 2008 corporate tax reform, which has brought further relief, had to be considered for the first time. In order not to be disruptive, some adjustments have been made.

Appendix

A.1 Countries participating to 2009 survey

Austria
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
Estonia
Finland
France
Germany
Greece
Hungary
Ireland
Italy
Lithuania
Malta
The Netherlands
Norway
Poland
Portugal
Romania
Slovakia
Slovenia
Spain
Sweden
Switzerland
Turkey
United Kingdom

A. 2 References

- COMMISSION RECOMMENDATION of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications (2005/698/EC);
- ERG (05) 29 Common position on EC Recommendation on Cost accounting and accounting separation, published in September 2005, available on http://erg.ec.europa.eu/;
- ERG (06) 23 Regulatory accounting in practice 2006;
- ERG (07) 22 Regulatory Accounting in Practice Report 2007;
- ERG (08) 47 Regulatory Accounting in Practice Report 2008;
- ERG (07) 83 ERG CP on symmetry of fixed call termination rates and on symmetry of mobile call termination rates.
- IRG (05) 24 Regulatory accounting in practice 2005, available on http://www.irg.eu/template20.jsp?categoryId=260350&contentId=543311.