Body of European Regulators for Electronic Communications

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Regulatory Accounting in Practice 2012

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1. Executive summary

This is the eighth annual report in a series summarising the findings of a detailed survey of regulatory accounting frameworks across Europe. The information has been gathered from National Regulatory Authorities (NRAs) and covers the implementation of regulatory accounting methodologies, systems and processes.

These regulatory accounting frameworks provide NRAs with financial information essential to facilitate some of their significant regulatory decisions such as setting price controls, monitoring compliance with *ex ante* obligations (such as cost orientation of charges and non-discrimination) and informing market reviews.

The report provides an up-to-date factual report on the regulatory accounting frameworks implemented by NRAs and an assessment of the level of harmonisation achieved. The report sets out an overview of the regulatory accounting frameworks updated to June 2012 and also illustrates trends and comparisons with data collected each year from 2006.

The report develops a deeper analysis that concentrates on the following four key wholesale markets: Line Rental, Unbundled Access, Broadband Access and Leased Lines Terminating Segments. Moreover an analysis is given of the cost base and accounting methodologies used for fixed and mobile termination markets.

Furthermore, as for last year's report, to emphasise factors influencing NRAs regulatory strategy, additional structural data has been collected from NRAs. Not surprisingly, considerable differences in the market/competitive situation as well as infrastructure can be observed within the responding countries.

This year the data collection has investigated the depreciation method declared by respondent NRAs when CCA has been declared as the cost base and NRAs were also required to give details on the treatment of fully depreciated assets.

Key findings

The overall picture is relatively stable in comparison to last year with generally a small number of changes by NRAs since last year. There are clear preferences for price control methods (cost orientation alone or in combination with price cap), cost base (current cost accounting – CCA) and accounting methodologies (mainly long run incremental costs (LR(A)IC) with fully distributed costs (FDC) preferred only in a few - mainly retail - markets). The degree of harmonisation of methodologies seems high and accommodates the use of elements or parameters that reflect national circumstances. These findings reflect the primary cost base or methodology selected by an NRA but do not bring out situations where an 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. For all markets except Market 1 the combination of CCA and (FL) LR(A)IC is the most favoured approach.

The analysis of the key wholesale markets – Unbundled Access (Market 4), Broadband Access (Market 5) and Leased Lines Terminating Segment (Market 6) – has shown a clear preference for cost orientation, a trend towards using CCA and a fairly even distribution of LRIC and FDC accounting methods. Slightly different results are observed for the Wholesale Line Rental, where the retail minus is the most used price control method, HCA (historical cost accounting) and CCA are used quite in the same proportion and FDC is clearly the preferred choice of accounting methodology.

Future development

Good progress has been made in developing effective regulatory accounting frameworks to meet the needs of NRAs. 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 and to provide further input to the planned Commission's recommendation on costing methodologies for key access products.

2. Introduction

2.1 Background

The ERG Regulatory Accounting Project Team (now the BEREC Regulatory Accounting EWG) has been gathering and reporting data from National Regulatory Authorities (NRAs) with the aim of 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. This is the eighth annual report summarising the results of this survey.

The report has been updated since 2005[1] in order to monitor the level and trend in harmonisation of regulatory accounting systems across Europe over time. By the end of the first 2006 quarter several countries had completed the first round of 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.[2] The previous years' reports showed a clear trend towards an increasingly harmonised approach to regulatory accounting obligation among ERG (now BEREC) countries. This trend is further confirmed by 2012 data, though with signs of stabilisation in applying particular methods for cost valuation or cost accounting.

2.2 Current report

This report provides an update of the status of regulatory accounting systems across Europe. It monitors how regulatory accounting methods and models developed as a consequence of the adoption by NRAs of decisions regarding market analyses. This year's report confirms the harmonisation trend already observed during the last few years.

[1] - IRG (05) 24 Regulatory accounting in practice 2005.
…- ERG (06) 23 Regulatory accounting in practice 2006.
- ERG (07) 22 Regulatory accounting in practice 2007.
- ERG (08) 47 Regulatory accounting in practice 2008.
- ERG (09) 41 Regulatory accounting in practice 2009.
- BOR (10) 48 Regulatory accounting in practice 2010.
- BOR (11) 34 Regulatory accounting in practice 2011.

[2] Recommendation 2005/698/EC replacing Recommendation 98/322/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 Cion is currently working on a new recommendation covering "Costing methodologies for key wholesale access prices". BEREC has provided detailed input to the public consultation, cf. Document BoR (11) 65.

The report benefits from information collected from the 32 authorities (listed in Annex 1) with most NRAs responding to the majority of the questions providing a solid base for further analysis.

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 2012, although the final decisions may still be subject to outstanding consultations and may still therefore be part of the next market analysis rounds.

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[3], however NRAs should aim at following regulatory best practice.

In order to obtain a general view of cost accounting systems across Europe, the Regulatory Accounting EWG has collected 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 incremental cost – LRIC) chosen by different NRAs.

Such data, providing a valuable source of information, form an IRG (now BEREC) database, which is an informal data exchange tool among NRAs.[4] It includes, for each of the 18 markets identified by the old EC Recommendation[5] on relevant markets as susceptible of *ex ante* regulation, the following information:

- cost base;
- accounting system;
- price control method;
- auditing process;
- WACC calculation methodology; and
- remedies imposed on 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)*

[3] 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 systems and accounting separation under the regulatory framework for electronic communications” (2005/6984/EC).
[4] The database contains confidential information therefore it is not published.
[5] Recommendation 2003/311/EC.

- *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[6]:

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

For the Price control method:

- *Cost orientation (alone)*
- *Price Cap (alone)*
- *Retail Minus*
- *Cost orientation and Price cap*
- *Benchmarking*
- *Other price methods that do not appear in the above definition*

Besides the above mentioned data, some countries provided further information regarding the approach used to develop cost models (e.g. Top-Down).

Finally, in order to simplify the data presentation and also to respect the confidentiality request made by some NRAs for certain data, this report, as in the previous years, does not present and comment all the data collected. The report concentrates on those markets listed in the 2007 EC Recommendation on relevant markets[7] 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 to *ex ante* regulation, the 2012 report follows how the deregulation process is developing in Europe.

[6] 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.*"

[7] Recommendation 2007/879/EC.

3. Outline of the Results

3.1 A snapshot of 2012 regulatory accounting data for markets listed in 2007 EC Recommendation

The information collected for the Regulatory Accounting Report has always been referred to the 18 markets listed in the 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[8] and the other six at the wholesale level.[9] Table 1 below lists the markets of the new EC Recommendation (first column) and the corresponding markets in the old one (second column).

Table 1 – Markets identified by Rec. 2007/879/EC and corresponding markets in the 2003 Rec.

List of Markets susceptible to ex ante regulation according to Recommendation 2007/879/EC	List of Markets susceptible to *ex ante* regulation according to Recommendation 2003/311/EC
Market **1:** Fixed Call Access Residential and non Residential	Market **1** : Fixed Call Access Residential
	Market **2:** Fixed Call Access Non-Residential
Market **2:** Fixed Call Origination Wholesale	Market **8:** Fixed Call Origination Wholesale
Market **3:** Fixed Call Termination Wholesale	Market **9:** Fixed Call Termination Wholesale
Market **4:** Unbundled Access Wholesale	Market **11:** Unbundled Access Wholesale
Market **5:** Broadband Access Wholesale	Market **12:** Broadband Access Wholesale
Market **6:** Terminating Segments Wholesale	Market **13:** Terminating Segments Wholesale
Market **7:** Mobile Call Termination Wholesale	Market **16:** Mobile Call Termination Wholesale

Source: BEREC RA database 2012

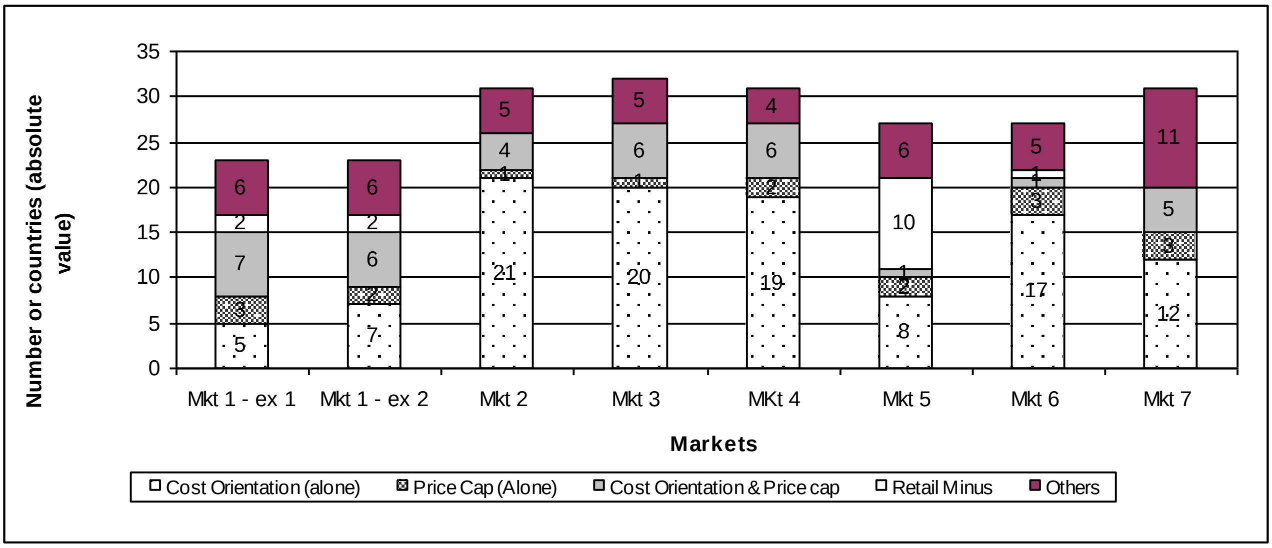
[8] Market 1: "*Access to the public telephone network at a fixed location for residential and non-residential customers*".

[9] 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*".

The following figures show a snapshot of the “Price control method”, the “Cost base” and the “Accounting methodology” used in the year 2012 for regulating the markets listed in the new Recommendation (2007/879/EC).

In this regard it has to be noticed that the new framework that had to be transposed by Member States until 25 May 2011 did not bring much changes with regard to Art. 13 and Art. 11.

Figure 1 – Price control method used in 2012 in the markets listed in Recommendation 2007/879/EC



Source: BEREC RA database 2012

In particular, the Figure above gives an overview of the price control methods used to regulate the markets listed in the EC 2007 Recommendation in the year 2012.[10] In order to better reflect the actual price control methods in particular markets, as in last year’s Report, BEREC has streamlined the possible price control options.

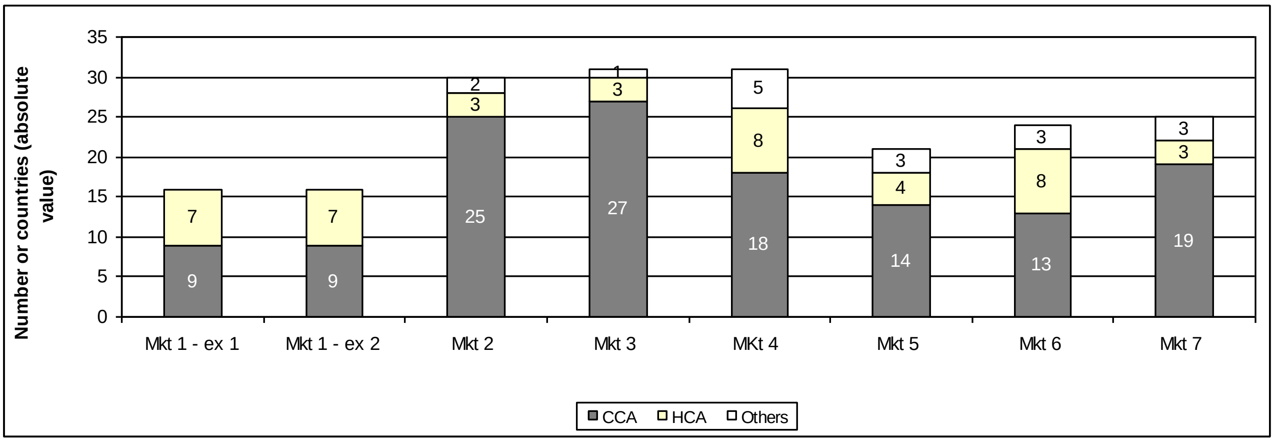
Figure 1 shows that cost orientation remains the most commonly used price control method in wholesale markets. In market 5 (WBA) also the Retail Minus method is spread among ten NRAs to set prices. Other common price control methods used in wholesale markets are cost orientation accompanied by a price cap. The situation is different for retail markets where price cap alone or together with cost orientation continues to be mainly used.

Compared to 2011 data, where “Benchmarking” was applied by two NRAs in markets 2 and 3, only one NRA in markets 4 and 6 and by four NRAs in the market 7 while 3 countries choose other methods different from benchmarking (such as a *glide path*), in 2012 “Benchmarking” is adopted by three NRAs in market 2, by four NRAs in market 3 and by seven NRAs in the market 7 (while 4 countries choose other methods different from benchmarking).

[10] The “Other” method also includes “Benchmarking” and *ex-post* price control method.

As far as the cost base is concerned, Figure 2 shows that also in 2012 CCA is by far the most commonly used methodology, in particular for wholesale markets.

Figure 2 – Cost base used in 2012 in the markets listed in Recommendation 2007/879/EC

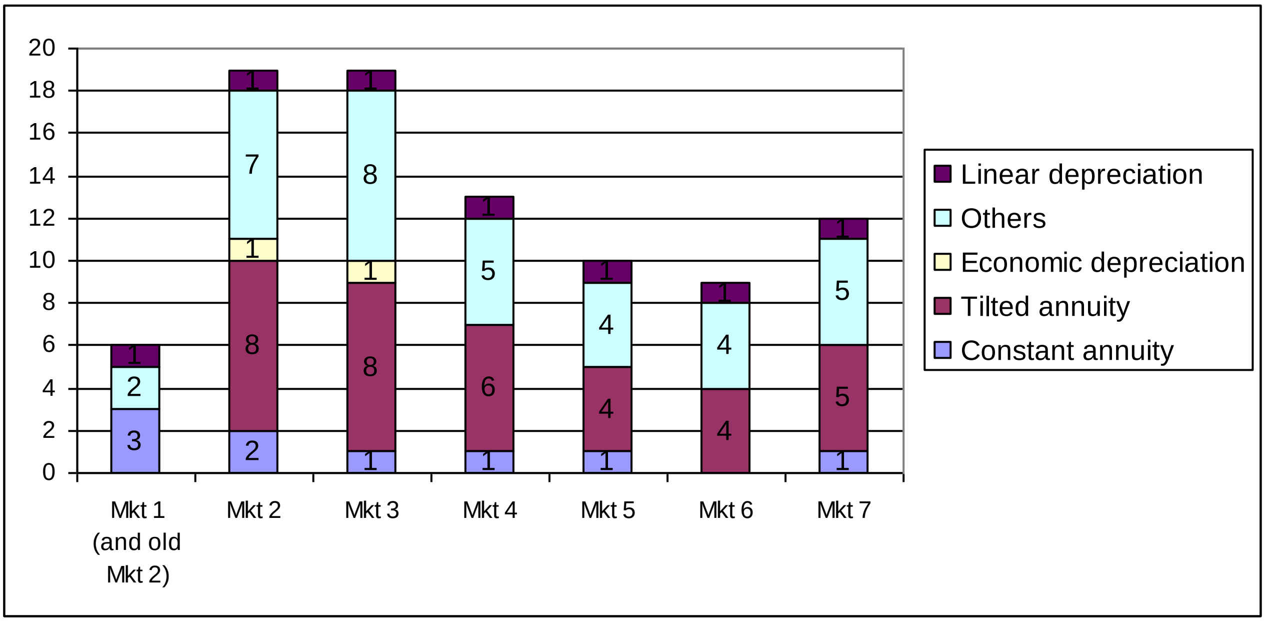


Source: BEREC RA database 2012
"FL CCA" is presented under modality "CCA".

This year NRAs were asked also to provide information on the depreciation method chosen when using CCA as cost base (Figure 2a). NRAs could choose among different depreciation methods.[11]

Considering those countries with no missing data for this variable, it can be observed that the most widespread depreciation method is, in general, the "tilted annuity", followed by "others".

Figure 2a – Depreciation method used in 2012 in the markets listed in Recommendation 2007/879/EC when CCA is the cost base



Source: BEREC RA database 2012

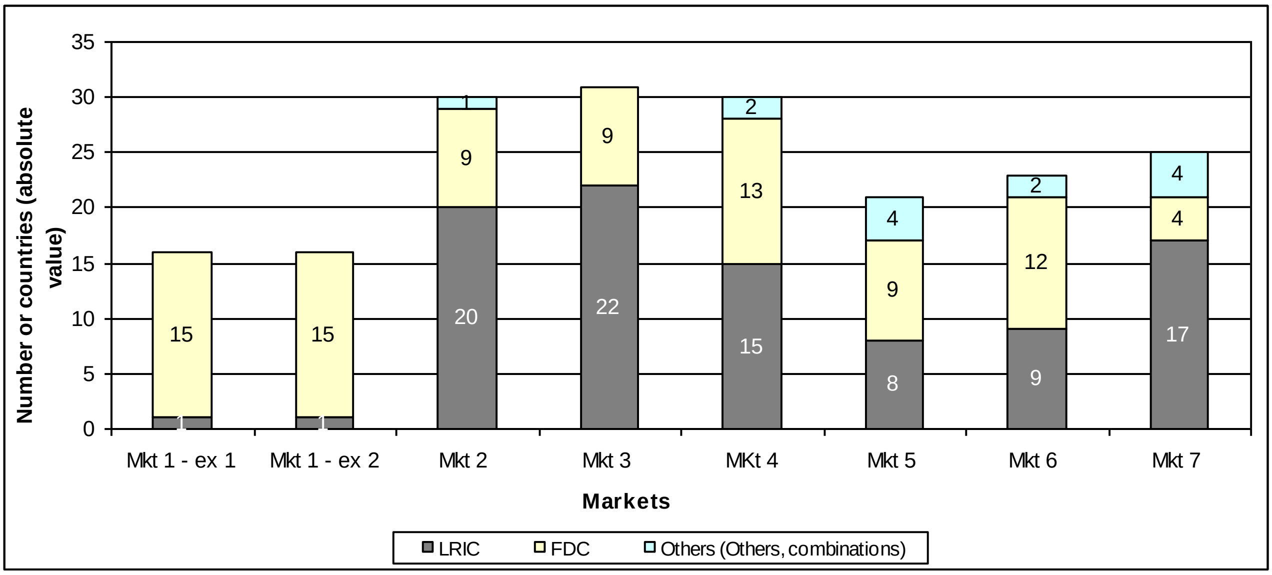
[11] For an explanation of the terms see Glossary in Annex A.4.

NRAs were also required to give details on the treatment of fully depreciated assets. In general it can be said that in many countries fully depreciated assets are not allowed or they are excluded from the cost base (since their value has already been recovered through past depreciation or because there is no mechanism to control whether there are depreciated assets in use by the SMP operator) or in the financial accounting they have a zero value or are replaced by new assets. One country declared that the question on the treatment of fully depreciated assets is not relevant when a Bottom-up model is applied since all assets needed are valued at their actual price, therefore there are no depreciated assets in the model. For another country the case of assets being fully depreciated does not occur since in applying CCA, gross replacement costs are used and the efficient asset base is revalued with current prices and then written off.

The few NRAs taking into account fully depreciated assets, declared to use either the "straight line method" or the "linear depreciation".

Figure 3 below shows the accounting methodology used in the different markets. As in the case of the price control method a difference can be observed between retail and wholesale markets: while all respondent NRAs use FDC for retail markets (apart from one NRA declaring LRIC), they mainly use LRIC in wholesale markets.

Figure 3 – Accounting methodology used in 2012 in the markets listed in Recommendation 2007/879/EC



Source: BEREC RA database 2012

3.2 A snapshot of 2012 regulatory accounting data for markets listed in 2003 EC Recommendation

Table 2 shows markets listed in the 2003 EC Recommendation which, according to the Commission, are not susceptible to *ex ante* regulation any longer.[12]

As the remedies referred to these markets were adopted before the new Recommendation became effective, data referred to them have still been collected and monitored. It has also been taken into account that in some countries these markets are still regulated as NRAs assessed that they are not yet competitive.

Moreover, in order to monitor the process of deregulation of markets not included in the EC Recommendation any longer, Table 2 shows the number of countries with some price control[13] or accounting obligation[14] still in place since 2008.[15]

[12] NRAs deciding to maintain/modify/eliminate existing remedies in these markets have to run the so called "three criteria test" to proof if 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.
[13] Art. 13 Access Directive, Art. 17 Universal Service Directive.
[14] Art. 11 and Art. 13 Access Directive.
[15] Due to the number of countries included in the elaboration in 2011 and 2012, data for 2012 are not comparable with data contained in the 2011 Regulatory Accounting Report.

Table 2 – Number of Countries with price control and/or accounting obligation over time

List of Markets susceptible to *ex ante* regulation according to Recommendation 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	#of countries with price control and/or accounting obligation in 2010	#of countries with price control and/or accounting obligation in 2011	#of countries with price control and/or accounting obligation in 2012
Market **3:** National fixed Residential Services	15	15	9	10	14
Market **4**: International fixed Residential Services	9	9	4	5	7
Market **5**: National fixed Non-Residential Services	13	11	10	11	14
Market **6:** International fixed Non-Residential Services	10	10	6	7	10
Market **7:** Leased Lines	17	15	13	13	12
Market **10:** Fixed Transit Services Wholesale	19	16	14	12	11
Market **14:** Trunk Segments Wholesale	12	12	11	11	13
Market **15:** Mob. Access and Origination Services	3	3	4	4	6
Market **17:** International Roaming	1	1	0	0	0
Market **18:** Broadcasting Services	13	14	13	11	12

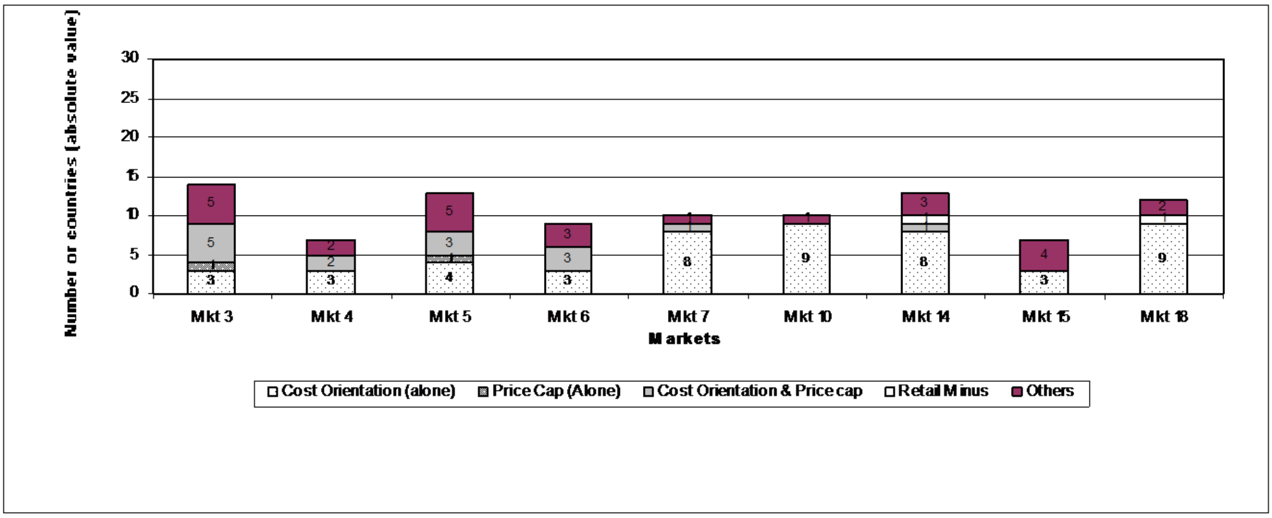
Source: BEREC RA database 2012

Table 2 shows that the number of countries in which some price control and/or accounting obligations are in place, in general, decreased over time[16], confirming that some NRAs have already started the liberalisation process envisaged by the new Recommendation.

Figure 4 shows the price control method used in the markets listed only in the 2003 Recommendation. In this case the evidence is mixed particularly for retail markets (Markets 3, 4, 5, 6 and 7). Here NRAs adopted the different price control methods more or less in equal proportion, with the exception of market 7 for which the prevailing price control method is clearly cost orientation, the same as in all three remaining wholesale markets.

[16] The increase in number of countries with price control and/or accounting obligation in 2011 and 2012, is due to the inclusion in the survey of two countries not included in 2010 and 2011.

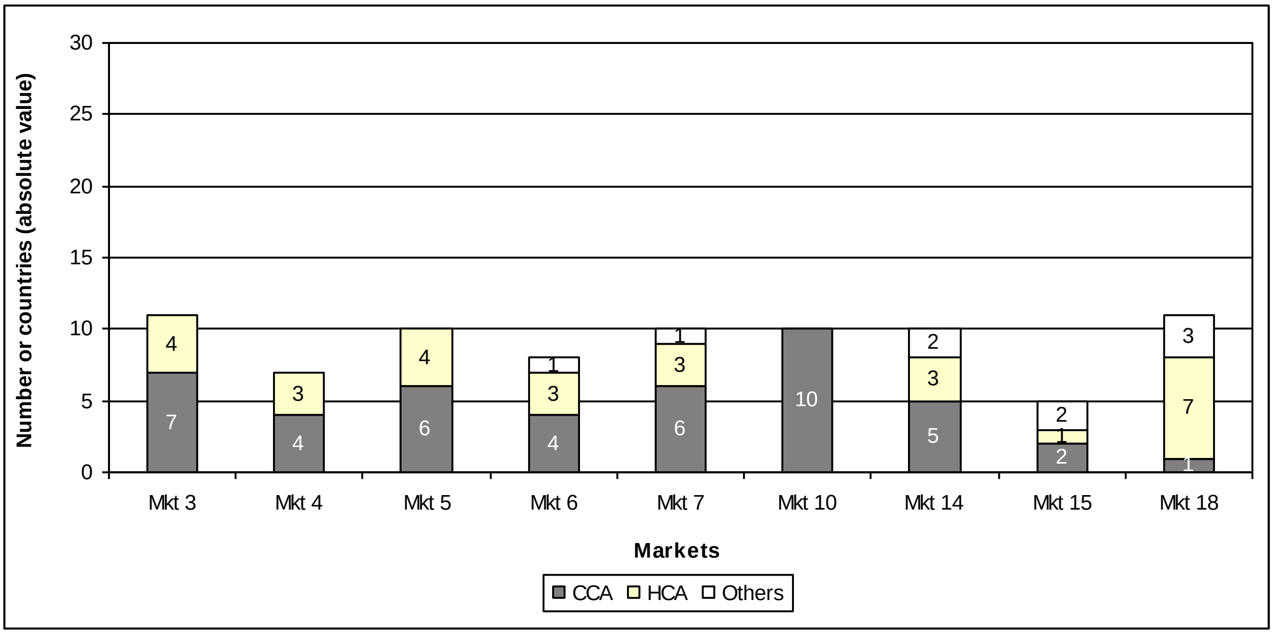
Figure 4 – Price control method used in 2012 in the markets listed only in Recommendation 2003/311/EC



Source: BEREC RA database 2012
Market 17 (International Roaming) has been excluded from this figure because it is under EU regulation.

Figure 5 below shows a variable picture for the cost base used in the analysed markets. As for wholesale markets, in market 10, CCA is clearly the main cost base declared by NRAs, while in market 18, the prevailing cost base is HCA. In retail markets CCA and HCA seem to be used in similar proportions, with a prevalence of CCA.

Figure 5 – Cost base used in 2012 in the markets listed only in Recommendation 2003/311/EC

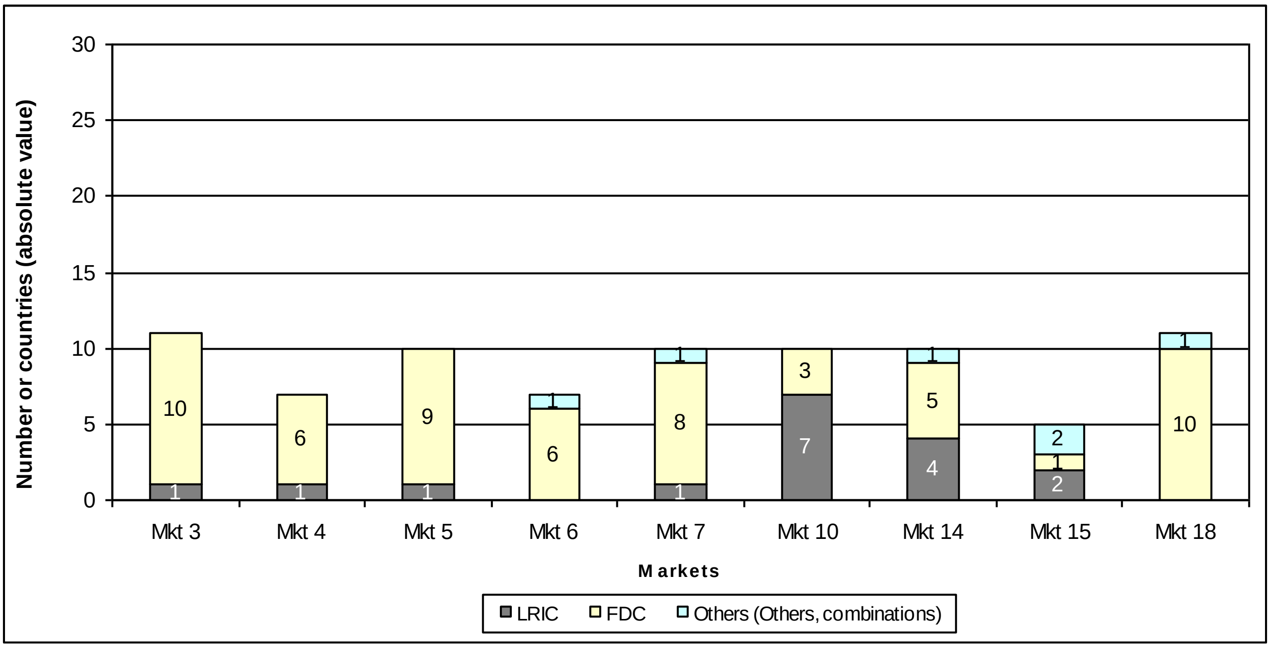


Source: BEREC RA database 2012
Market 17 (International Roaming) has been excluded from this figure because it is under EU regulation.

A clear pattern can be identified for the accounting methodology used in the 9 markets listed only in the old Recommendation. As shown in Figure 6 below, FDC is by far the most used accounting methodology in retail markets and in market 18, while several countries also use LRIC or other methodologies in wholesale markets.

Finally, it is interesting to observe that in the 'old' markets no longer listed in the Recommendation 2007/879 mainly other cost base/accounting methods, such as HCA/FDC were used.

Figure 6 – Accounting methodology used in 2012 in the markets listed only in Rec. 2003/311/EC



Source: BEREC RA database 2012
Market 17 (International Roaming) has been excluded from this figure because it is under EU regulation.

3.3 Cost base, accounting methodology and price control method over time

While in the previous paragraphs a snapshot of the current situation (year 2012) in the various markets has been illustrated as far as price control, cost base, accounting methodology, depreciation method and treatment of fully depreciated assets are concerned, the following paragraphs illustrate the development of regulatory accounting practices across Europe over time. To put it another way, the paragraphs illustrate the evolution of accounting and price control remedies over time, concentrating on WLR services and on the following three wholesale markets listed in the new EC Recommendation as still susceptible to *ex ante* regulation: ULL (market 4), WBA (market 5) and Terminating Segments of Leased Lines (market 6).

In order to present a 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[17] and may differ from the number of countries taken into account in the previous paragraphs.

As far as the cost base and the accounting methodology are concerned, it is often the case that an NRA, when setting up its regulatory accounting framework for the fixed notified operator/s, will apply a consistent cost base and accounting methodology to all regulated fixed markets. In the following paragraphs it is therefore to be expected that those countries that moved for example from HCA to CCA, did that for all relevant markets.

3.3.1 Wholesale Line Rental

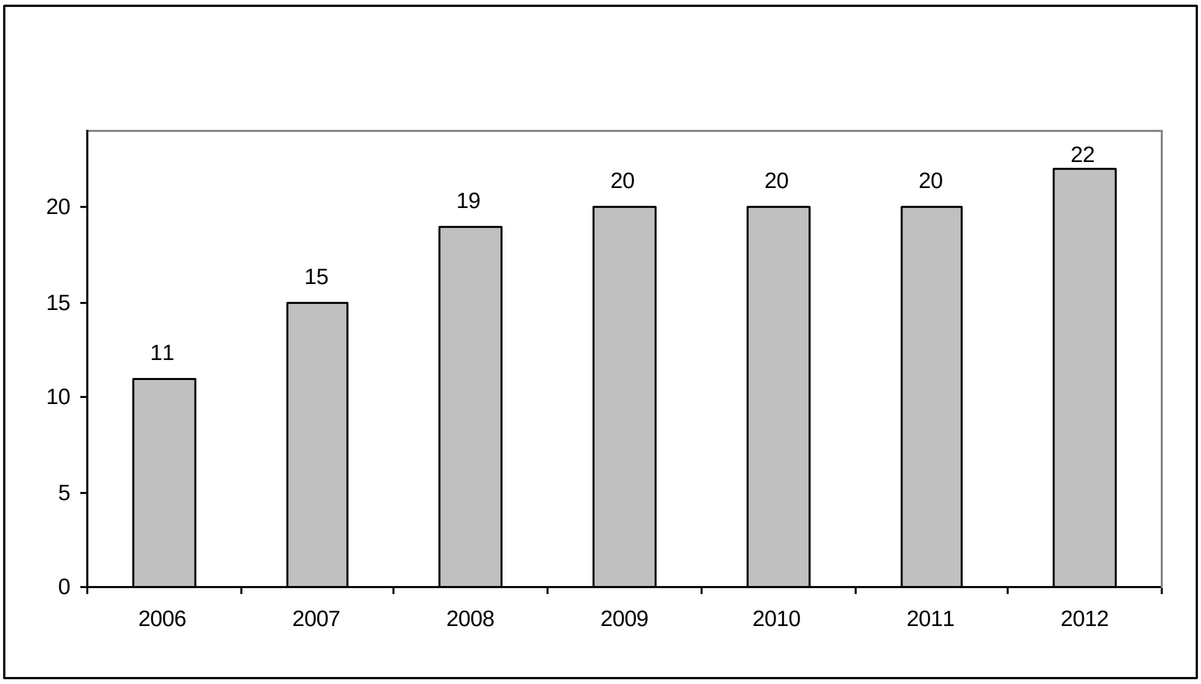
Wholesale Line Rental Services are those services enabling alternative operators to enter the retail narrowband access market without sustaining the high investments required by ULL services, hence bearing a lower risk. Moreover, the WLR obligation benefits final customers allowing them a larger choice among different access providers.

The number of countries in which the WLR obligation is in force increased over time. In 11 out of 30 countries providing information[18], the WLR obligation has been in place since 2006, but the number increased to 20 in 2009. In 2012 two more countries declared to have a WLR offer (Figure 7). It should be pointed out that in those countries in which WLR is not mandatory, NRAs do not have information about commercial WLR offers.

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

[18] One country has not been included in the elaborations for this paragraph since data on WLR have been provided only for 2012 and not also for previous years.

Figure 7 – Number of Countries with WLR obligation by year



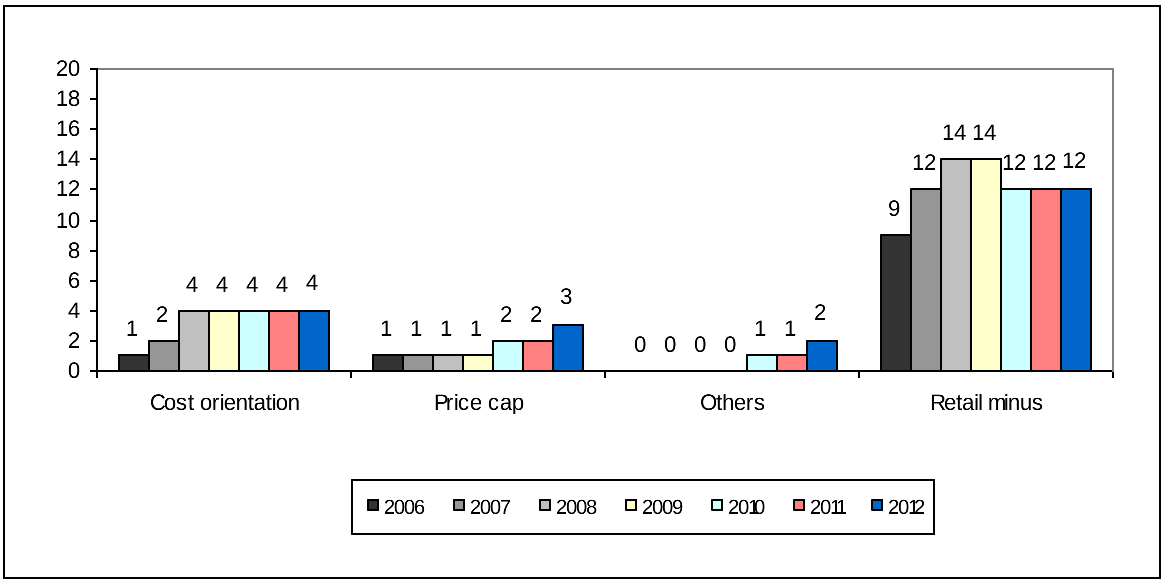
Source: BEREC RA database 2012
Number of countries: 30

Trend analysis:

Price control method

The most used price control method declared in 2012 by 12 NRAs out of 21 is retail minus. It was also the most common methodology in previous years (Figure 8).

Figure 8 – Price Control Method Wholesale Line Rental

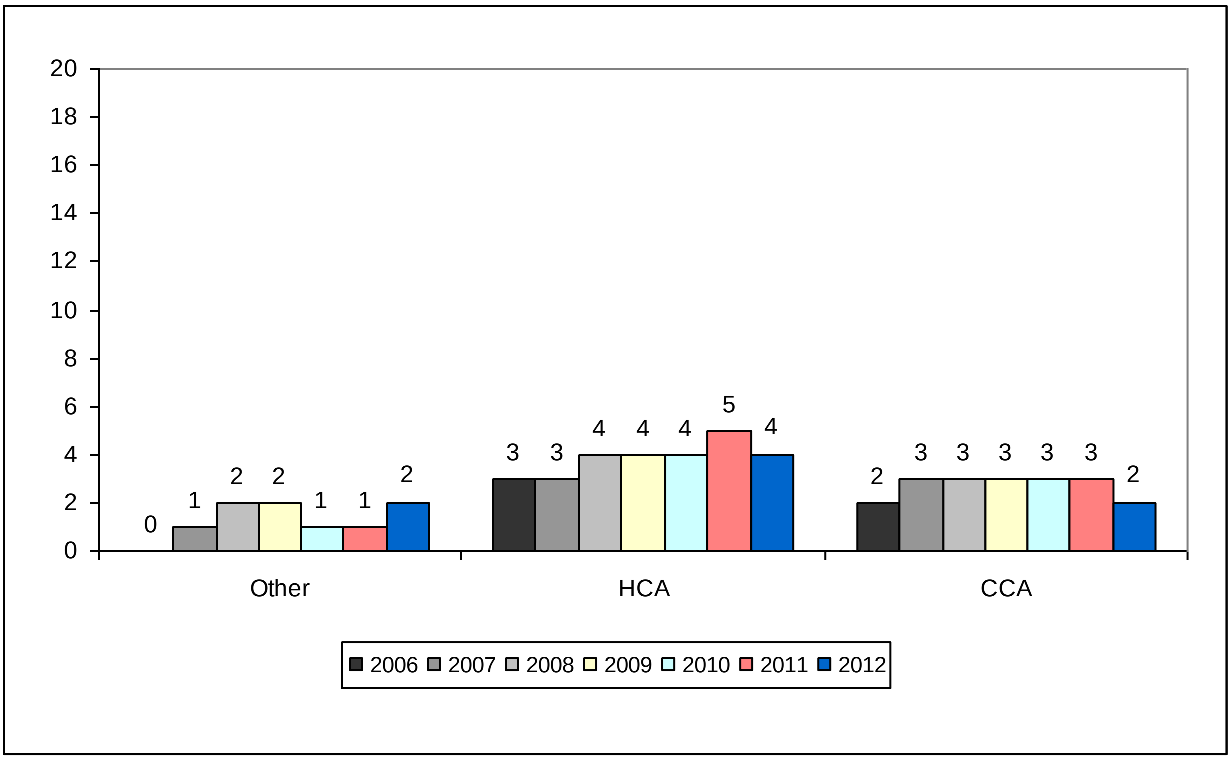


Source: BEREC RA database 2012
Number of countries: From 11 in 2006 to 21 in 2012.

Cost base

Taking into account only those NRAs declaring to impose the WLR obligation with retail minus as price control method, it can be observed that, as far as the cost base is concerned, the trend since 2008 is quite equally spread among CCA and HCA although since 2011 the number of countries using HCA as cost base exceeds those using CCA (Figure 9a).

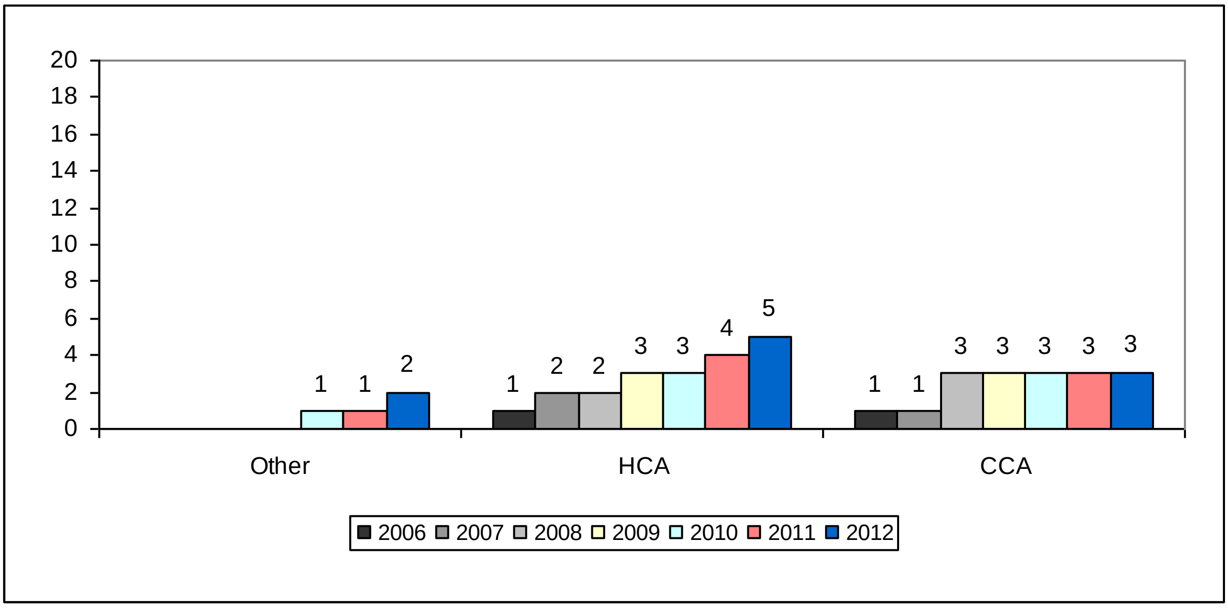
Figure 9a – Cost Base Wholesale Line Rental for countries with Retail Minus as Price Control Method



Source: BEREC RA database 2012
Number of countries: From 9 in 2006 to maximum 14 in 2008/2009. One country missing data for this variable vary between 3 and 5.

Considering only those NRAs declaring the remaining kinds of price control method (i.e. cost orientation, price cap and others) for the WLR obligation, it can be observed that since 2009 the countries adopting HCA as cost base have exceeded those adopting CCA (Figure 9b).

Figure 9b – Cost Base Wholesale Line Rental for Countries with other kinds of Price Control Method

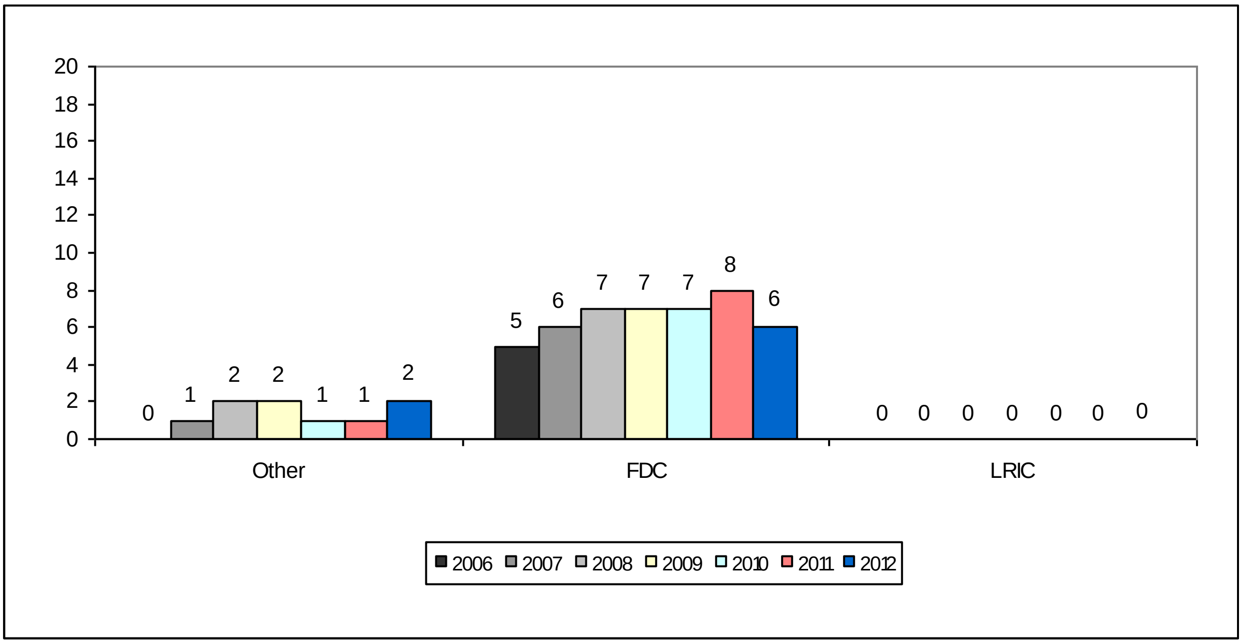


Source: BEREC RA database 2012
Number of countries: From 2 for 2006 to 10 for 2012. 1 missing country for this variable in 2010.

Accounting methodology

There is clear evidence that FDC is the preferred accounting methodology (Figure 10a) for those countries with retail minus as price control method. As a matter of fact its use has increased since 2006. Other accounting methodologies have also been declared.

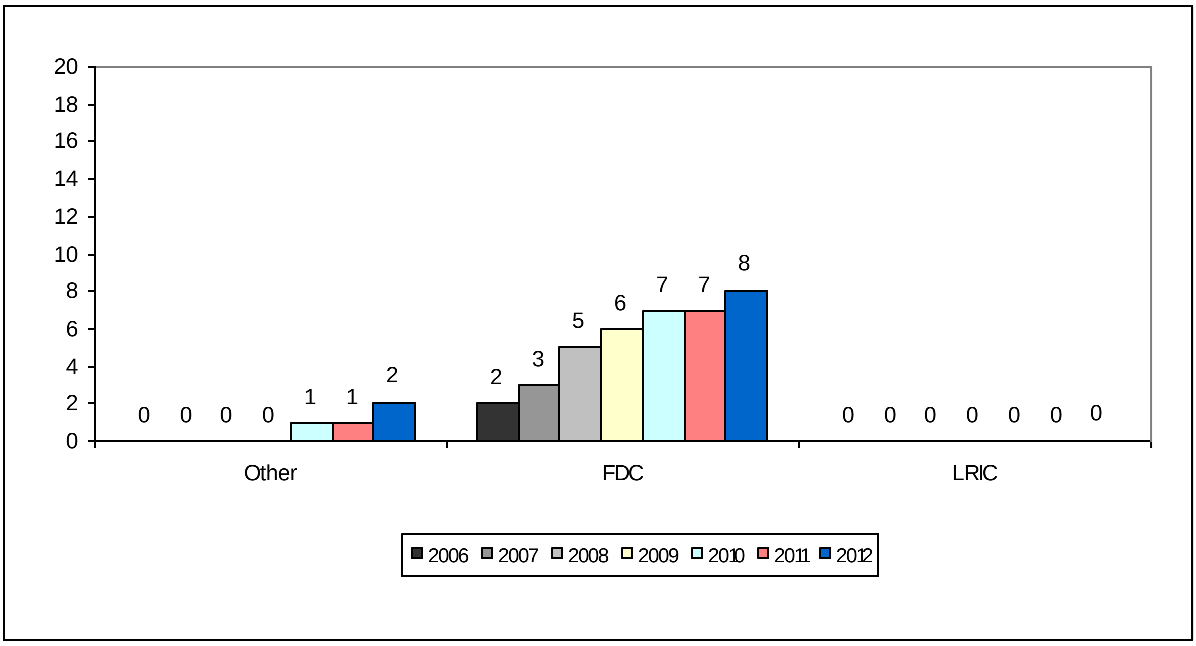
Figure 10a – Accounting Methodology Wholesale Line Rental for countries with Retail Minus as Price Control Method



Source: BEREC RA database 2012
Number of countries: From 9 in 2006 to maximum 14 in 2008/2009. Missing countries for this variable vary between 3 and 5.

Taking into account those NRAs declaring to impose the WLR obligation with other kinds of price control method, it can be observed that also in this case FDC is the preferred accounting methodology (Figure 10b).

**Figure 10b – Accounting Methodology Wholesale Line Rental for countries with other types of
Price Control Method**



Source: BEREC RA database 2012
Number of countries: From 2 in 2006 to 10 in 2012.

<u>Key points for Wholesale Line Rental:</u> FDC and retail minus are the most popular accounting methodology and price control method, respectively. The number of countries using HCA as cost base exceeds those using CCA. Generally it is important to mention the fact that for WLR retail minus is the preferred price control method.

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

The new EC Recommendation on relevant markets defines Market 4 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 exception of two NRAs that defined sub-national geographic markets identifying the corresponding local incumbent operators as having SMP.

Trend analysis:

Cost base

CCA is the cost base declared by 18 NRAs taking part in the survey for year 2012 (see Figure 2). Unlike Figure 2, which is based on data for the countries that answered the 2012 BEREC questionnaire, the figure below gives an insight into how the choice of cost base has changed over time, taking into account only data provided by 22 NRAs each year since 2007. Figure 11 shows a quite stable and sustainable situation. In this market, CCA is by far the most commonly used cost base methodology and the number of countries using this method has been stable since 2008. Also the number of countries using HCA has been stable since 2008, though there was a reduction of 2 countries from 2007 to 2008. One country declared that it had adopted another methodology since 2007.[19] The change of three countries from CCA to another methodology is due to a classification of products on market 4 and the cost base has been counted as "other" in case of different answers for different products.

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 significant technological progress. Broadly speaking this may imply that the expected reduction in real terms of asset values - which is normally observed in other markets when adopting CCA cost base, due to technical progress reducing equipment costs (e.g. routers are generally cheaper than switches)[20] - is not necessarily observed in the unbundled access market. In addition, it has to be taken into account that recently copper prices have been fluctuating significantly and the picture is still showing a real price increase over time; this price increase could be a further element determining higher service prices when moving from HCA to CCA. In this regard, according to some observers, the use of CCA is likely to remain 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.

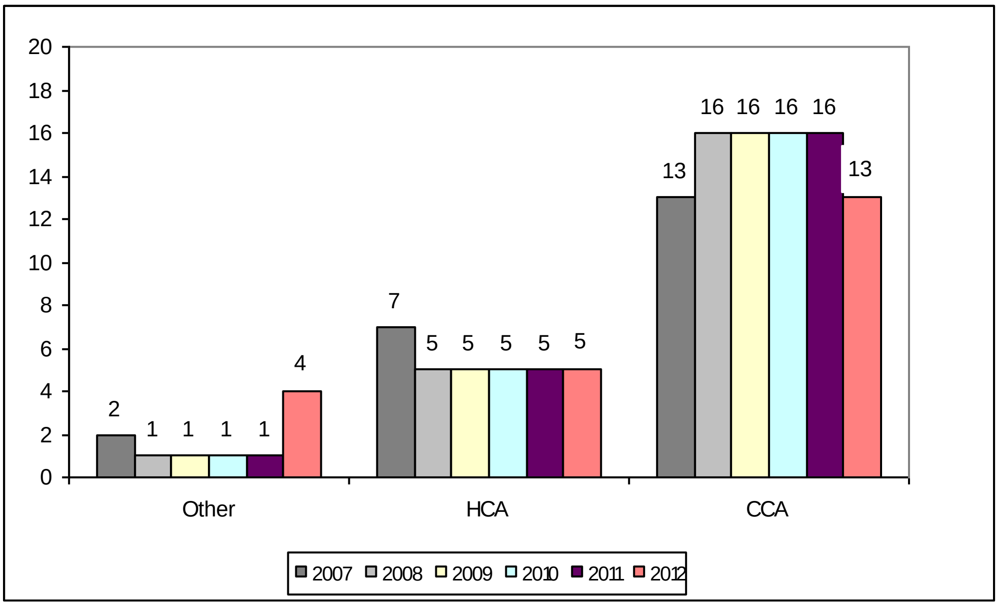
If these considerations are correct they may have an impact on all the other access services that use the same assets to provide ULL services.

Generally speaking, countries still using HCA in this market, use the same cost base for other fixed wholesale markets.

[19] In particular this Country uses CCA method to determine capital costs (depreciation and return on capital employed) and HCA for OPEX and overhead costs.

[20] For the NGN core network it is generally acknowledged that NGN technology bears cost savings to a considerable extent (cf. e.g. ERG IP-Interconnection Report 2007 and ERG Common Statement on Regulatory Principles of IP-IC/NGN Core – A work program towards a Common Position, ERG (08)26 – Oct 2008, pp. 21, pp. 82).

Figure 11 – Cost Base Unbundled Access Wholesale (Mkt 4)

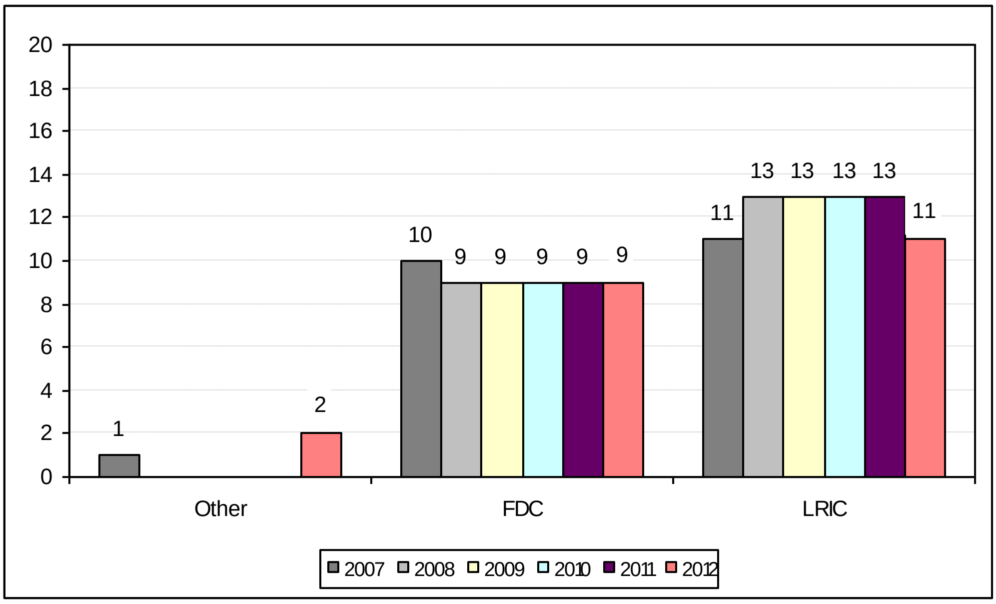


Source: BEREC RA database 2012
Number of countries: 22

Accounting methodology

Figure 3 shows that the most common accounting methodology in 2012 is LRIC. Taking into account only those countries providing information since 2007 in Figure 12 an apparently stable and sustainable situation can be observed, starting from 2008. As a matter of fact the number of countries using LRIC changed from 11 countries in 2007 to 13 in 2008 and the number has been stable until 2011. Correspondingly, a slight reduction in the number of countries using FDC is observed: from 10 in 2007 to 9 in 2008 and following years, showing a stable situation. In 2012 two countries declared to adopt another methodology. Some countries classified the different products (i.e. ducts, LLU monthly rental, LLU other) resulting in different answers (for example FDC accounts, ad hoc studies, and so on) that have been counted as “other”.

Figure 12 – Accounting Methodology Unbundled Access Wholesale (Mkt 4)



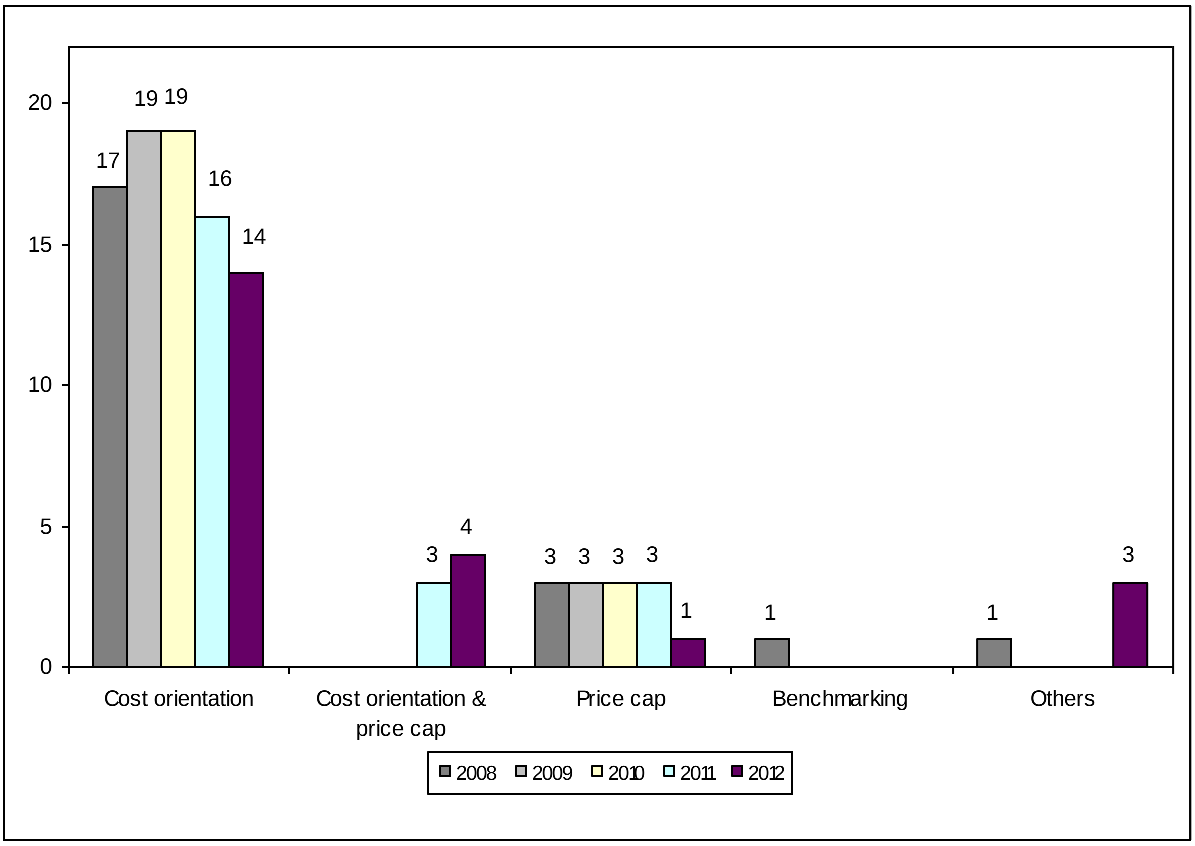
Source: BEREC RA database 2012
Number of countries: 22

Price control method

The most common price control method for 2012 in the unbundled access wholesale market is by far cost orientation (Figure 1), which is declared by 19 NRAs (although for 5 NRAs it is combined with price cap). Figure 13 provides a picture of how this method changed over time, taking into account 22 countries participating in the data collection since 2008. It can be observed that in 2012 three NRAs moved over to other methods of price control. This reflects the fact that they use differentiated remedies for copper and fibre.[21]

[21] For a more comprehensive description see also the BEREC Report on the Implementation of the NGA-Recommendation, BoR(11)34 – September 2011.

Figure 13 – Price Control Method Unbundled Access Wholesale (Mkt 4)



Source: BEREC RA database 2012
Number of countries: 22

Key points for Market 4: CCA is the preferred cost base combined with LRIC as the costing methodology and cost orientation as the price control method. This trend has been confirmed by the NGA Recommendation adopted in September 2010.

3.3.3 Wholesale broadband access (Market 5)

The 2007 EC Recommendation on relevant markets defines Market 5 as the market for "wholesale broadband access".[22]

In this market all the analysed countries also notified at least one operator (typically the national incumbent) in the first and second rounds of market analysis.

Trend analysis:

Cost base

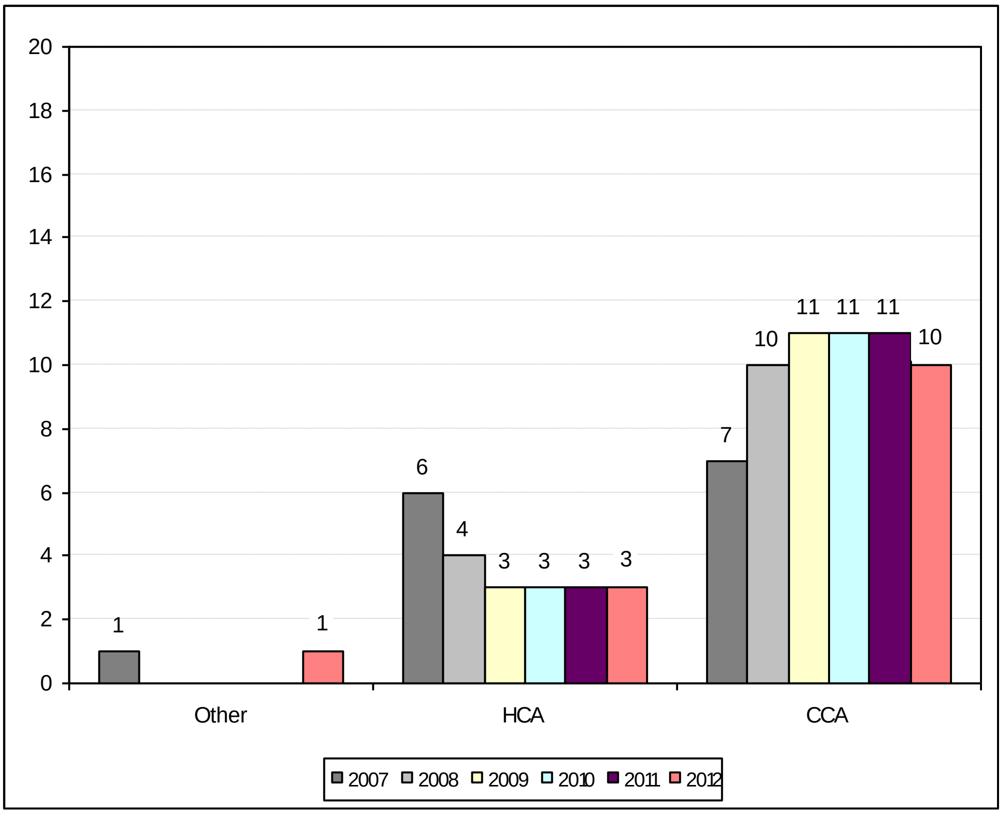
Figure 14 shows data for 14 countries that have provided relevant information since 2007 and, as such, this is less than the number of countries in Figure 2.

[22]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 market for wholesale broadband access shows a similar trend to that of the unbundling market in terms of the cost base used. Furthermore, it can be observed that CCA is by far the most commonly used cost base methodology and 10 among the observed countries have used this method since 2008. Despite the observed decrease from 2007 to 2009, the HCA method remained stable since 2009.

This market is characterised by the prevailing use of network elements subject to rapid technological change, whose asset value in real terms can be expected to decrease over time using a CCA cost base.

Figure 14 – Cost Base Wholesale Broadband Access (Mkt 5)

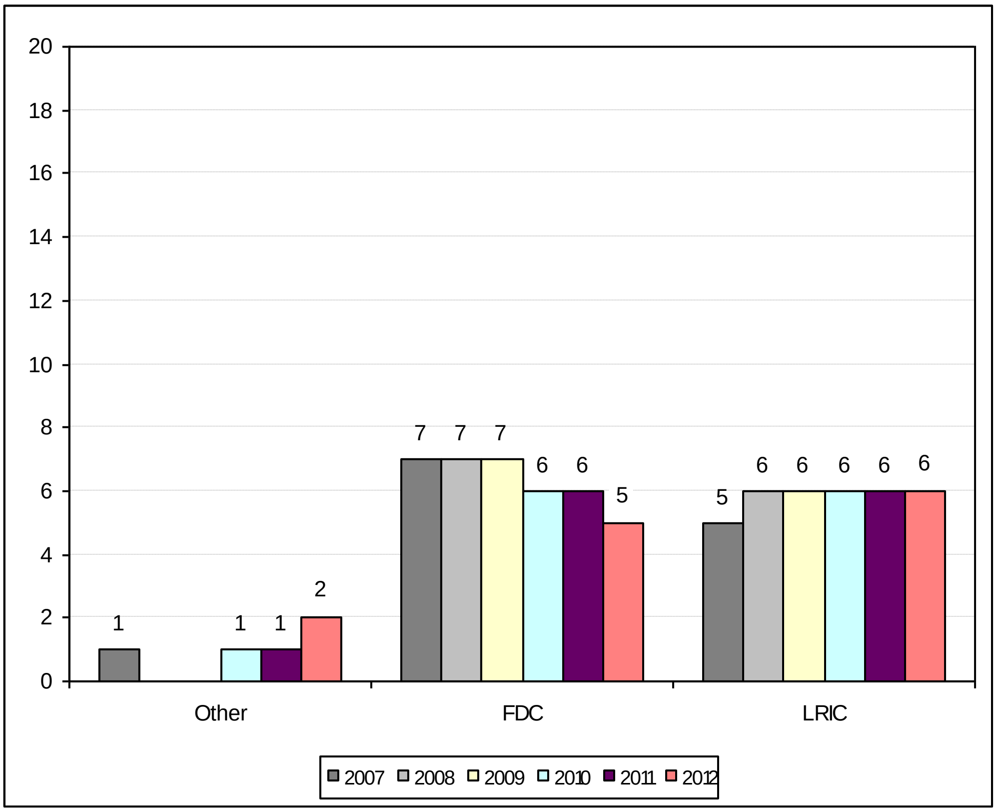


Source: BEREC RA database 2012
Number of countries: 14

Accounting methodology

Figure 15 shows the accounting methodology used in the wholesale broadband access market by 13 countries since 2007. It can be seen that one NRA passed from using the FDC method to another accounting methodology in 2010, while countries using LRIC have remained stable in the choice of their accounting methodology since 2008.

Figure 15 – Accounting Methodology Wholesale Broadband Access (Mkt 5)

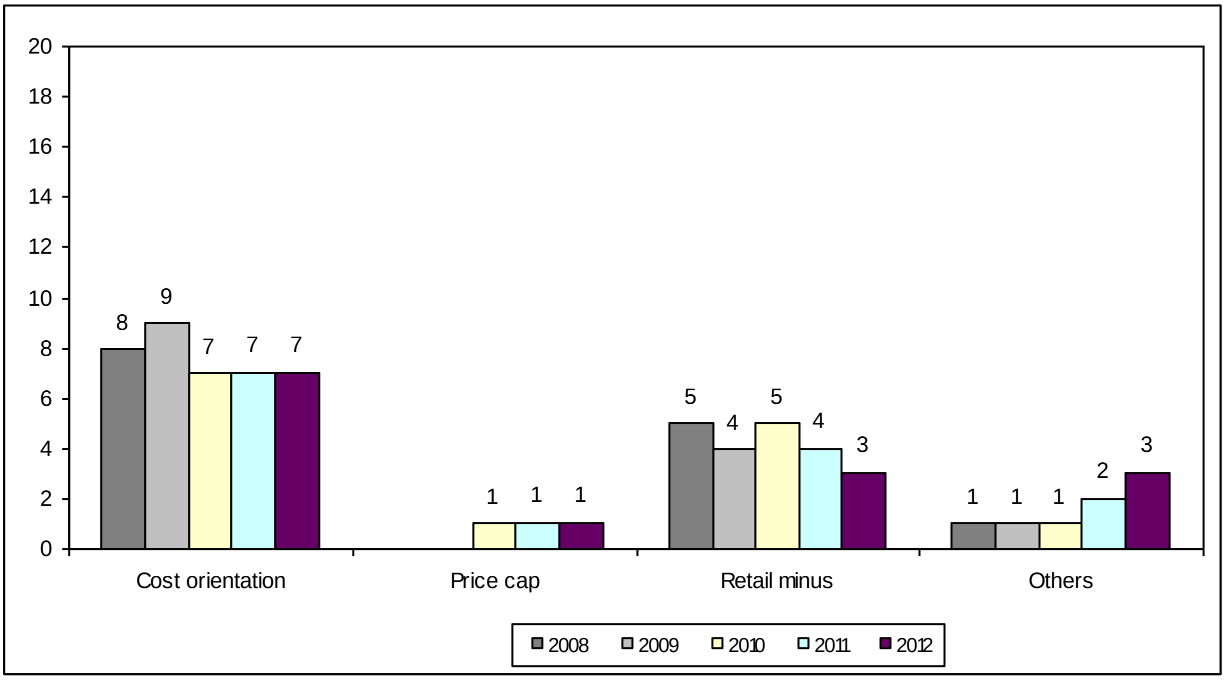


Source: BEREC RA database 2012
Number of countries: 13

Price control method

The most used price control methods in 2011 in the wholesale broadband access market are cost orientation and retail minus (Figure 1), declared by 8 and 10 NRAs, respectively. However, taking into account 14 countries answering the questionnaire since 2008, it can be observed (Figure 16) that cost orientation and price cap have been stable since 2010.

Figure 16 – Price Control Method Wholesale Broadband Access (Mkt 5)



Source: BEREC RA database 2012
Number of countries: 14

Key points for Market 5: **CCA is, by far, the most common cost base over time. As far as the accounting methodology is concerned, the number of countries using LRIC is almost the same as those using FDC, while cost orientation is chosen as price control method.**

3.3.4 Leased Lines Terminating Segment (Market 6)

The new EC Recommendation on relevant markets defines Market 6 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 (typically the national incumbent) in the first and in the second rounds of market analysis.[23]

Trend analysis:

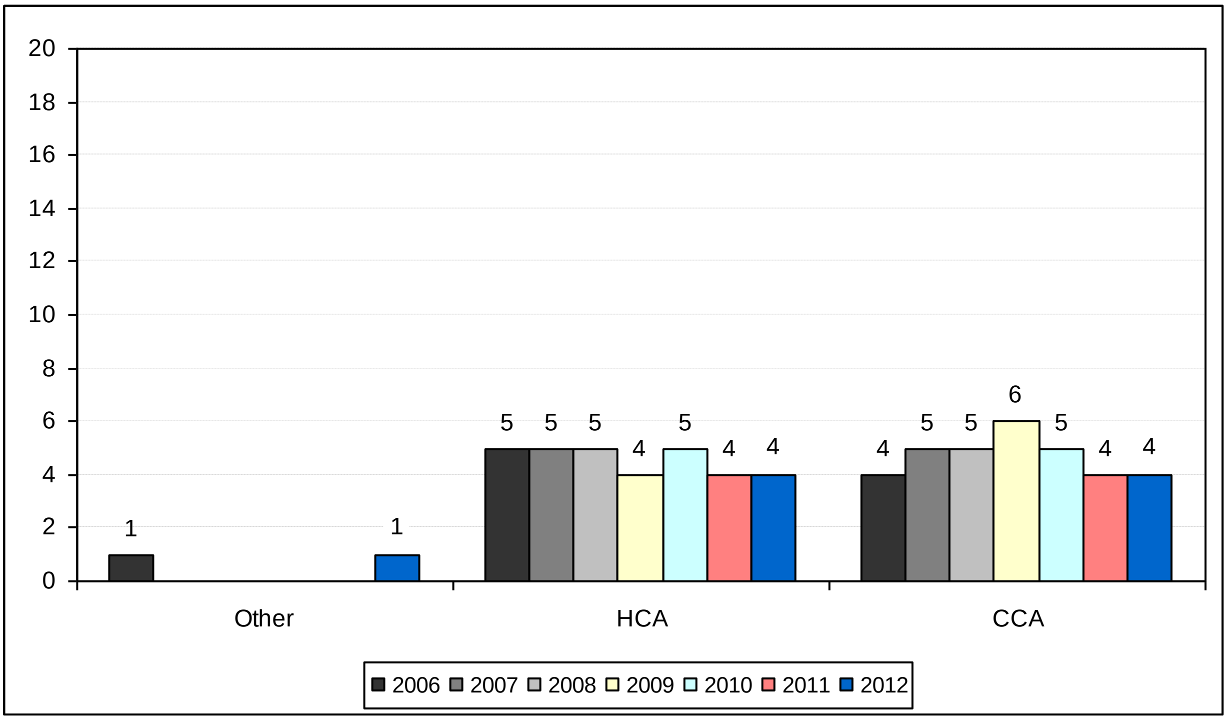
Cost base

The figure below shows the countries adopting CCA, HCA or a combination of other accounting methodologies to set leased line charges for the terminating segments from 2006 to 2012. It could be said that from 2009 to 2010 one NRA moved from CCA to HCA and CCA

[23] In one country 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.

and HCA has been equally spread since 2011 for those countries observed since 2006. One country declared a cost base different from HCA and CCA in 2012.

Figure 17 – Cost Base Leased Lines Terminating Segment (Mkt 6)

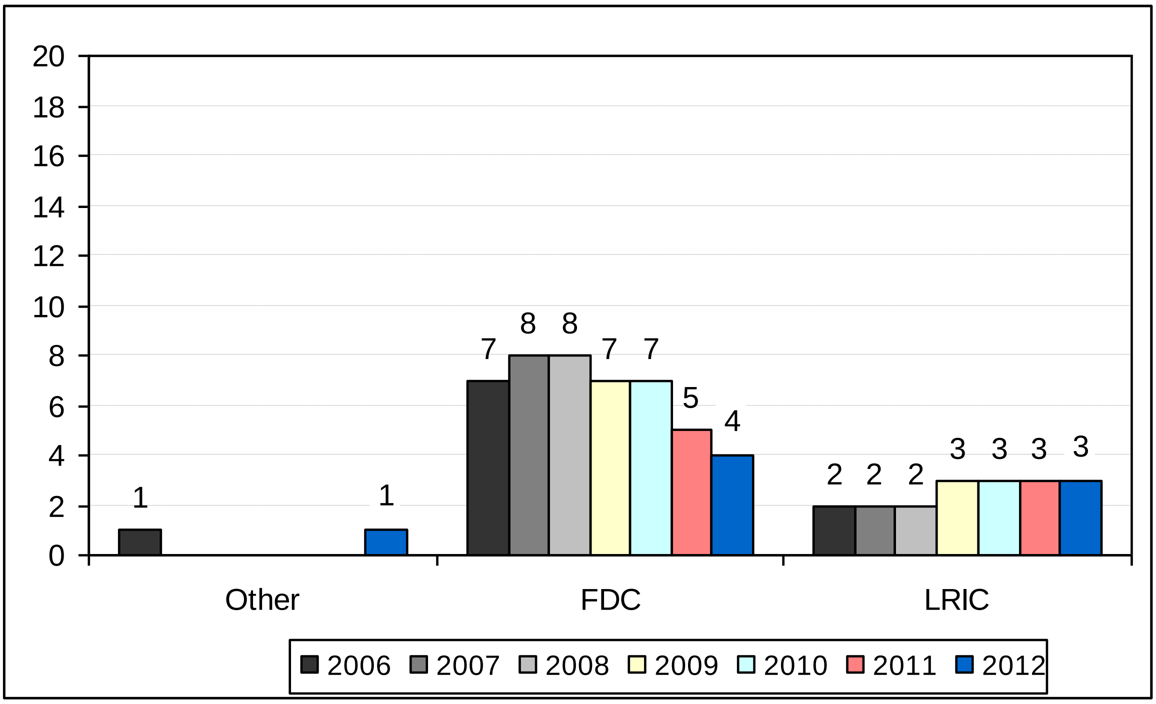


Source: BEREC RA database 2012
Number of countries: 10. In 2012 for one Country this market is under analysis.

Accounting methodology

Figure 18 shows the number of countries adopting LRIC, FDC or other mixed allocation methodologies in the leased line (LL) wholesale terminating segment for the period analysed. The most common accounting methodology in the leased line wholesale terminating market for the countries observed since 2006, although decreasing over time, is FDC. At the same time, the number of countries using LRIC has remained stable since 2009.

Figure 18 – Accounting Methodology LL Terminating Segment (Mkt 6)

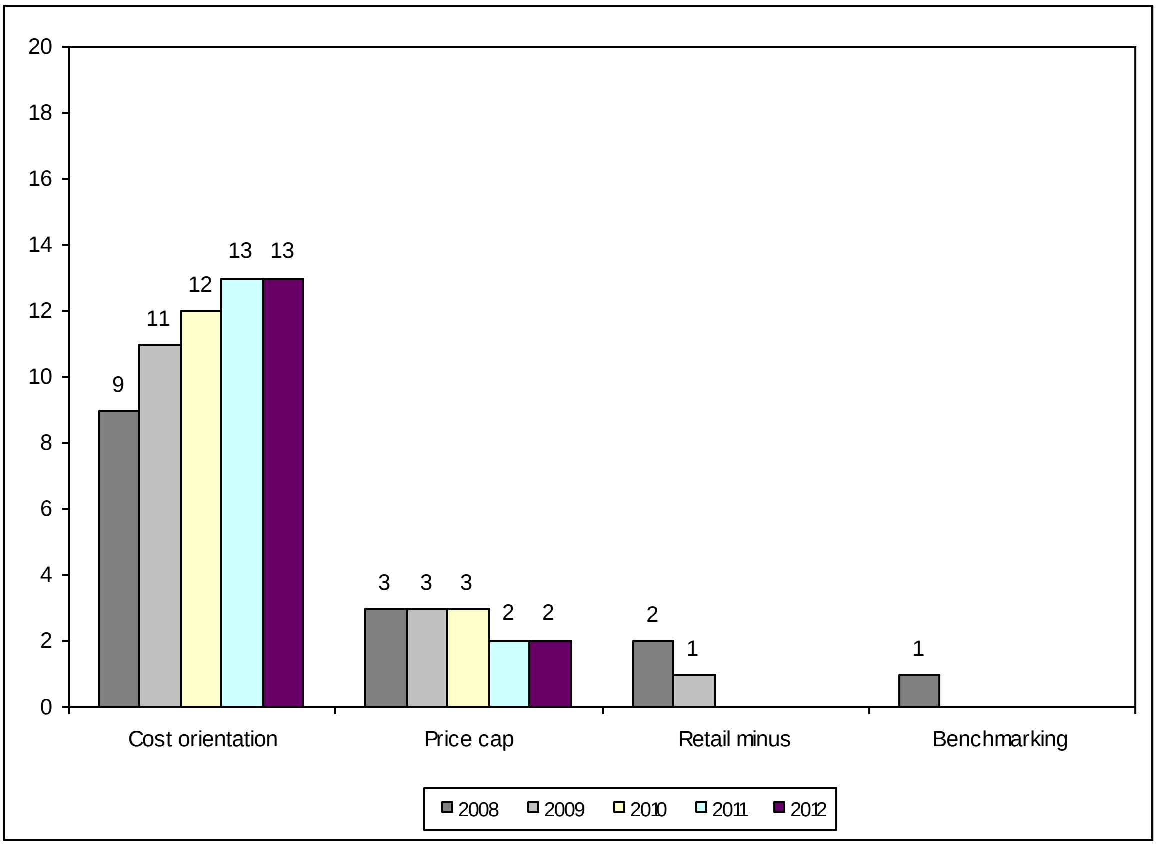


Source: BEREC RA database 2012
Number of countries: 10

Price control method

Cost orientation is the price control method used by more than 60 per cent of NRAs in 2012. Taking into account the 15 countries whose data were collected since 2008, it can be observed that cost orientation is spread more than other methods over time (more than 80% among those NRAs with no missing data since 2008) and that this trend has been stable since 2011.

Figure 19 – Price Control Method LL Terminating Segment (Mkt 6)



Source: BEREC RA database 2012
Number of countries: 15

Key points for Market 6: **CCA and HCA are used by the same number of countries over time. FDC is the prevailing accounting methodology in 2011, also for those countries whose data were collected since 2006. Cost orientation is the recurrent price control methodology in this market both in the current year and over time.**

3.4 Termination Markets

3.4.1 Fixed call termination (Market 3)

The 2007 EC Recommendation on relevant markets defines Market 3 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[24], 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 often regulated less strictly than the incumbent and are not usually subject to accounting separation,

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

price control and cost accounting obligations. The obligations related to tariff setting for OAOs often take the form of “fair and reasonable”, “non-abusive” prices or “delayed reciprocity”. However, the data on cost base and price control evolution over time in this section, refers to incumbent operators. Unlike Figures 2 and 3, which show data only for those countries participating in the 2012 survey with no missing information, the figures below show data for those NRAs that have provided the relevant information since 2006.

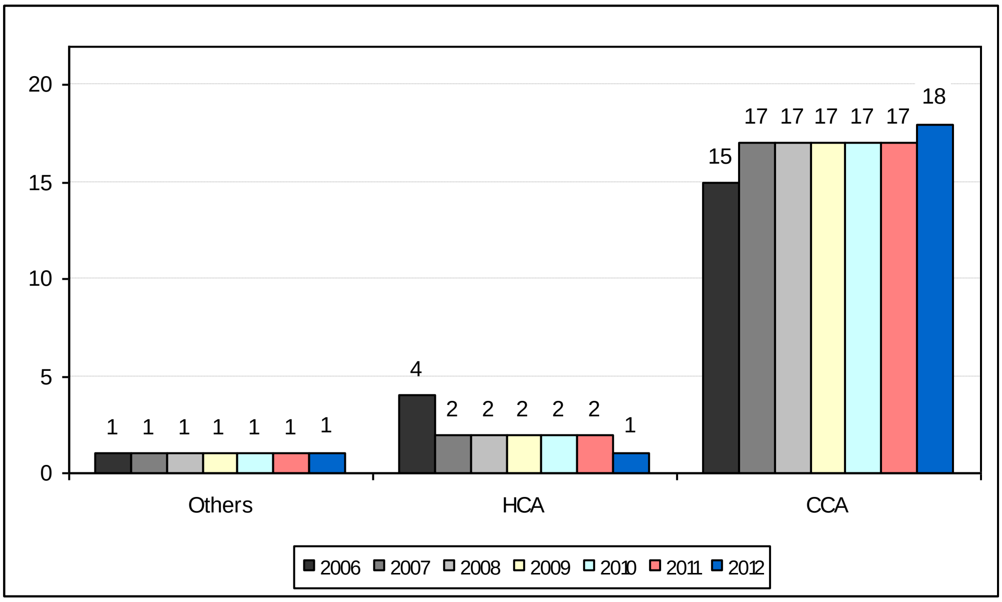
Trend analysis:

Cost base

Figure 20 shows the absolute number of countries adopting CCA, HCA or a combination of accounting methodologies to set incumbent’s fixed terminating charges in the seven year period under observation.

It shows that the most common cost base for fixed networks is CCA (always above 85 per cent of observed countries). It has to be noted that this is the seventh 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. In August 2011 one country made a new market decision changing cost base from HCA to CCA. Only one country declared to have been using another type of cost base, since 2006.[25]

Figure 20 – Cost Base Fixed Call Termination (Mkt 3)



Source: BEREC RA database 2012

[25] In particular this Country uses CCA method to determine capital costs (depreciation and return on capital employed) and HCA for OPEX and overhead costs.

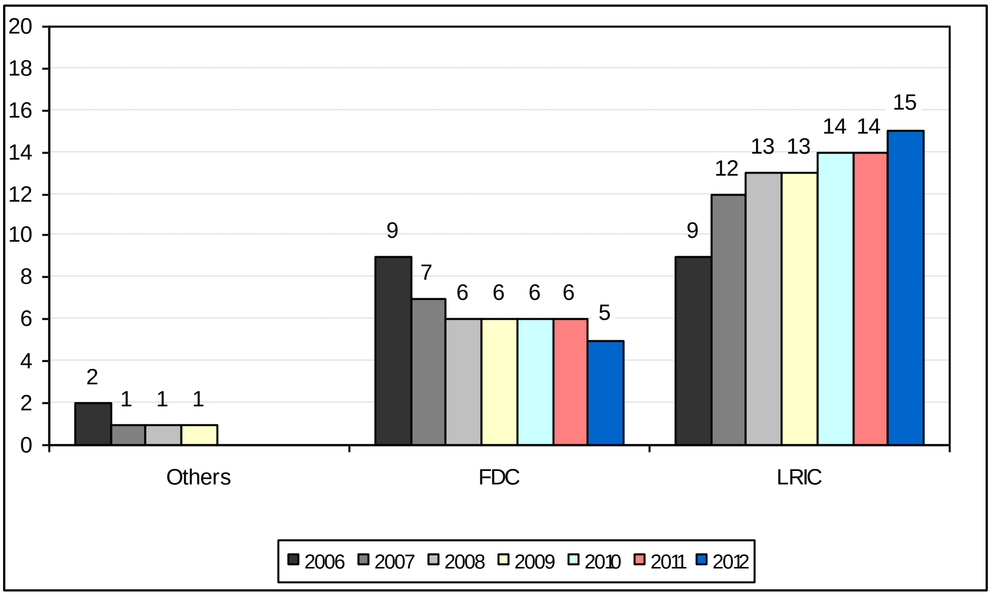
Number of countries: 20

Accounting methodology

Figure 21 shows the number of countries using LRIC, FDC or other mixed methodologies for fixed termination services from 2006 to 2012.

The figure shows a significant number of countries using LRIC for determining fixed termination tariffs since 2007. In August 2011 one country made a new market decision changing the accounting methodology from FDC to LRIC contributing thus to increase the number of countries adopting LRIC. As a consequence, a sharp reduction in the number of countries using FDC is observed over time.

Figure 21 – Accounting Methodologies Fixed Call Termination (Mkt 3)



Source: BEREC RA database 2012
Number of countries: 20

<u>Key points for Market 3:</u> CCA is the preferred cost base for this market combined with LRIC as the costing methodology. This trend is more evident now that a greater number of countries is implementing the EC Recommendation on the Regulatory Treatment of Fixed and Mobile Termination Rates in the EU (2009/396/EC).

3.4.2 Mobile call termination (Market 7)

The new EC Recommendation on relevant markets defines Market 7 as the market for "*Voice call termination on individual mobile networks*" and identifies a relevant market for each operator. In all countries all mobile operators have been found to be SMP in the termination market.

Unlike Figures 2 and 3, the figures below show data for those NRAs that have been providing the relevant information since 2006, therefore they show data for 14 countries.

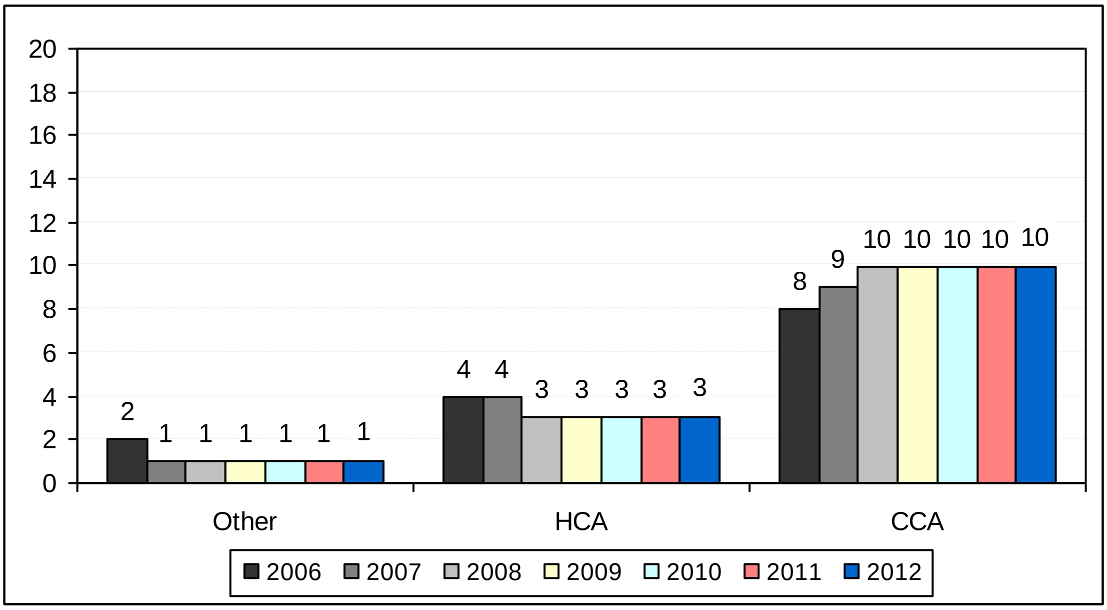
Trend analysis:

Cost base

Figure 22 shows the number of countries adopting CCA, HCA or a combination of accounting methodologies to set mobile interconnection terminating charges from 2006 till 2012. Since 2006 the most commonly used cost base for mobile networks has been CCA. 10 NRAs out of 14 are applying CCA in 2012 and this number has remained stable since 2008. Application of other methods also remained stable since 2008 showing that 3 NRAs were using the HCA method and one NRA was applying another method.[26]

Despite stable figures for the last five years the overall trend shows a decrease in the use of HCA application and an increase in application of CCA.

Figure 22 – Cost Base Mobile Call Termination (Mkt 7)



Source: BEREC RA database 2012
Number of countries: 14

Accounting methodology

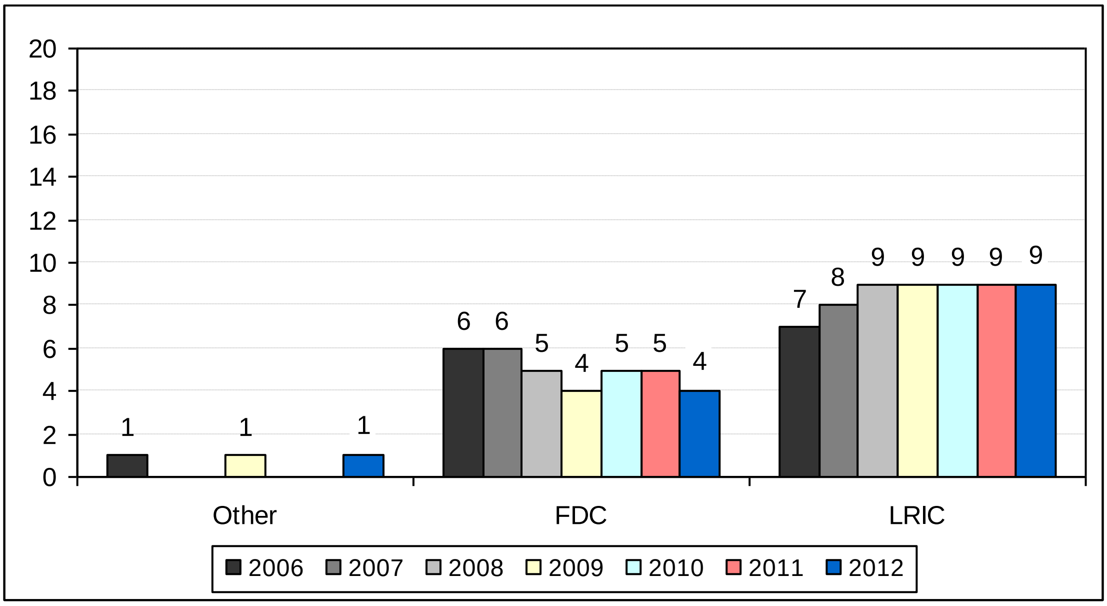
Figure 23 shows the number of countries using LRIC, FDC or other mixed methodologies as the costing methodology for call termination in mobile networks during the seven year period.

In the mobile sector the most commonly used accounting methodology is LRIC. The number of countries using LRIC methodology increased from 7 countries in 2006 to 9 countries in 2008

[26] This Country declared to use CCA to determine capital costs (depreciation and return on capital employed) and HCA for OPEX and overhead costs.

and has remained stable since 2008. Over the same period, the number of countries using FDC has been decreasing.[27]

Figure 23 – Accounting methodology Mobile Call Termination (Mkt 7)



Source: BEREC RA database 2012
Number of countries: 14

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

Key points for Market 7: CCA is the preferred cost base for this market combined with LRIC or LR(A)IC variant as the main costing methodology. The trend analysis suggests that the development of costing tools is still relatively new, but is in the process of being reinforced with the implementation of the EC Recommendation on the Regulatory Treatment of Fixed and Mobile Terminations Rates in the EU (2009/396/EC) where CCA and LRAIC (BU-LRAIC on its own or a combination of BU-LRAIC and TD-LRAIC) is foreseen as a first option.

3.5 Combination of cost base and accounting methodology – all markets

This analysis has been carried out looking at the relevant markets 1 to 7 of the new Recommendation (Figure 24). When looking at how NRAs combine cost base and accounting methodologies it is interesting to note that there are three combinations of cost base and accounting methodology used by most NRAs:

- CCA and (FL)-LR(A)IC;
- CCA/FDC;

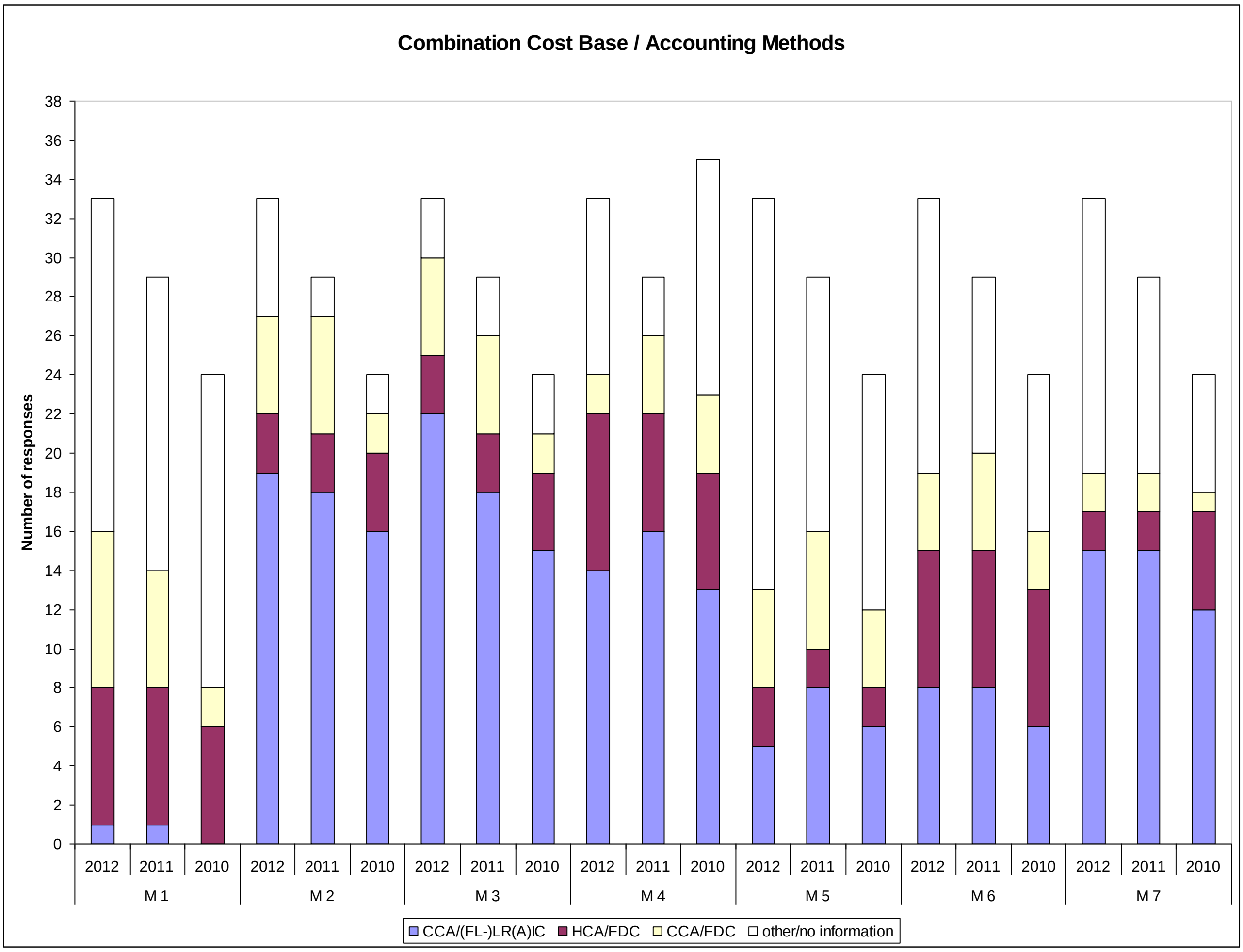
[27] One country declaring FDC for the past, is moving to LRIC. In the meantime the accounting methodology has been counted as "Others".

- HCA/FDC.

For most markets - except markets 1 and 5 - the preferred combination is CCA and (forward-looking) LR(A)IC. In comparison to the previous years in 2012 this choice of combination has been increasing in popularity in markets 2 and 3, has slightly declined in comparison to the previous year in markets 4 and 5 and has remained the same for markets 6 and 7. In market 1 the most popular combination remains HCA/FDC but CCA/FDC is being increasingly used in 2012. In 2012 Market 1 was not/ex-post regulated in seven countries. In markets 2 and 3 the most common combination in 2012 is CCA/LRIC; other options have decreased. In markets 4 and 5 the combination of CCA/LRIC has slightly declined[28] in 2012; in market 5 the “other” category increased. In 2012 ten countries used retail minus in market 5 and in three countries there was no/ex-post regulation. In markets 6 and 7 the dominant choice of CCA/LRIC remains unchanged in 2012; in markets 6 and 7 many NRAs apply other methods (in market 6 seven countries specified “other” or did not give an option and in market 7 benchmarking is used by seven countries).

[28] Due to the distinction of different products, see p. 23.

Figure 24 – Combination of Cost Base and Accounting Methods



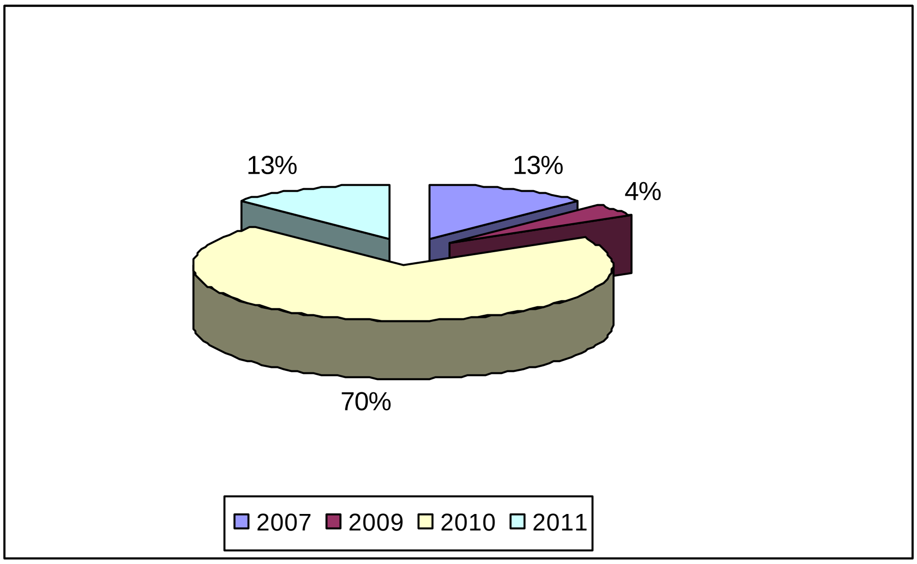
Source: BEREC RA database 2012
Please note that the number of responses recorded varies over the years: 24 responses in 2010, 29 responses in 2011 and 33 responses in 2012.

4. The auditing process

Data collected from NRAs concern also the accounting separation. As article 13(4) of Directive 2002/19/EC stipulates, the compliance of the incumbent's accounting system should be verified by a qualified independent body.

According to data updated to 30 June 2012, for 13 per cent of NRAs[29], the last year audited was 2011 and for 70 per cent of NRAs, the last year audited was 2010 (Figure 25).

Figure 25 – Last year audited – 2012



Source: BEREC RA database 2012
Number of countries: 24

Comparing 2011 and 2012 data[30], it can be observed that for more than 80 per cent of the countries the auditing process progressed by at least one year. Table 3 is an origin-destination table showing in rows and columns the last audited year as declared by NRAs in 2011 and 2012, respectively. One country that last year declared 2005 as its last audited year, this year declared 2010, pointing to an acceleration of the auditing process. Twelve NRAs have now audited data for 2010 rather than for 2009.

[29] Percentages are calculated of countries with no missing data on this topic.
[30] The comparison takes into account only those countries with no missing data in 2011 or in 2012.

Table 3 – Comparison between 2011 and 2012 data

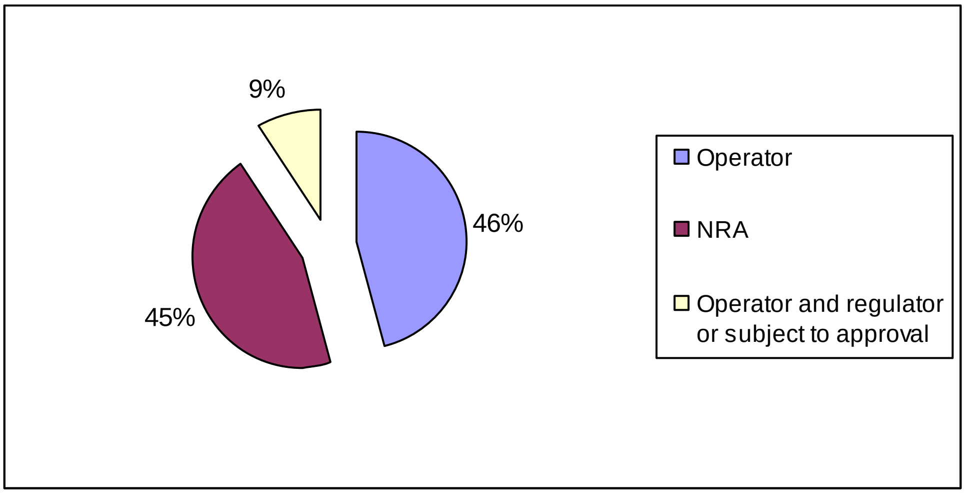
Last audited year in 2011	Last audited year in 2012				Total
	2007	2009	2010	2011	
2005			1		1
2006	1				1
2007	2				2
2008		1	2		3
2009			12	2	14
2010			2	1	3
Total	3	1	17	3	24

Source: BEREC RA database 2012
Number of countries: 24

In terms of the auditing process, several national and international firms were identified as the independent auditor responsible for the last set of audited financial statements, though 14 per cent of NRAs declared that they have carried out the auditing process themselves.

The choice of the auditor firm varies from country to country (Figure 26). In 2012, in quite the same percentage, the decision for choosing an auditing is up to the operator (46 per cent) or to the NRA (45 per cent of the cases). In 9 per cent of all cases the auditing firm is subject to NRA's approval or it is chosen jointly by the operator and the NRA.

Figure 26 – Auditor chosen by



Source: BEREC RA database 2012
Number of countries: 21

As far as confidentiality of accounting data is concerned, 42 per cent of the NRAs declared to have access to the incumbents' operative cost accounting system in use; 58 per cent of the NRAs declared not to have access to the incumbents' operative cost accounting system in use, although some of them are entitled to ask specific detailed information of the incumbent or may have access only in exceptional circumstances.

5. Additional Information: structural data

This section serves to identify the main structural differences within EU Member States, for example the competitive and market situation in each country, population and population density indicators as well as existing telecommunications infrastructure. These structural differences may influence NRAs' regulation strategy and therefore the choice of price control method.

However, it has to be pointed out that there may be a number of other important factors influencing regulation strategy that are confidential or unattainable by NRAs. Data collected from NRAs are shown below:

1	Market situation
1.1	% of cable subscriptions per total broadband lines = market share of cable subscriptions
1.2	% of fixed broadband lines per household or inhabitants = fixed broadband penetration: copper, fibre
1.3	% of mobile broadband lines per household or inhabitants = mobile broadband penetration
1.4	% of SIM cards per total population = mobile penetration
2	Population and surface area per country
2.1	number of inhabitants
2.2	number of inhabitants largest city
2.3	% of total population
2.4	number of inhabitants three largest cities
2.5	% of total population
2.6	country area in sqkm
2.7	number of inhabitants per sqkm
3	Subscriber lines
3.1	total number of active physical lines
3.2	ITU fixed telephone lines (active) in 2010
3.3	ITU fixed telephone lines per 100 inhabitants in 2010
4	MDF
	total number
5	Street cabinets
	total number
6	Local loop
6.1	total average length in m (total copper pair in m per active access)
6.2	average trench m per active subscriber line (total length of cable conduit + buried cable / active physical lines)
7	Distribution cable
	total average length in m (total copper pair in m per active access)

A total of twenty six countries have provided information on structural data, some of it confidential.

When looking at population data, in particular the number of inhabitants: fifteen countries have less than 9 Million inhabitants, six have between 9 and 20 Million inhabitants and five have more than 20 Million inhabitants. In terms of population density, eleven countries have less than 90 people per square km, nine countries have 90 to 200 people per square km and six countries above 200 people per square km. In terms of the population density of the main metropolitan areas, i.e. the number of inhabitants in the three largest cities as a percentage of the total population, we have the following picture: sixteen countries have a metro population density of less than 20 per cent (the lowest being 8 per cent), six countries between 20 and 30 per cent and four countries above 30 per cent.

The market and competitive situation within the nineteen different countries shows considerable disparity. The percentage of cable subscriptions per total broadband lines, representing the market share of cable subscriptions, varies between 0 per cent (one country) to 46,1 per cent. Four countries have a penetration rate above 40 per cent. The percentage of fixed broadband lines, representing fixed broadband penetration, ranges from 13,2 and 86,0 per cent. Nine countries have a fixed broadband penetration of above 50 per cent. The percentage of mobile broadband lines, representing mobile broadband penetration, ranges from 3,7 to 72,2 per cent. Five countries have a penetration of above 45 per cent. In all twenty six countries the percentage of SIM cards per total population, representing mobile penetration, is greater than 100 per cent, in one country even greaten than 200 per cent.

In correlation with the size of the country, the total number of active physical subscriber lines ranges from 168.500 to more than 35 million lines.

Not all countries have provided information on the network infrastructure, i.e. the numbers of MDF, street cabinets, local loop or distribution cable; furthermore some of the information is confidential.[31] This data is highly dependent on the size of the country and the number of its inhabitants as well as the infrastructure in use. Large variations are observed between countries. The total number of MDF ranges from 21 to more than 10.000 and the number of street cabinets from 600 to more than 200.000. The total average length of the local loop is between 1.200 and more than 5.000 metres and the average trench metre per active subscriber line is between 11 and 150 metres. The total average length of the distribution cable is between around 50 and 4.500 metres.

[31] Of the 26 responding countries: 21 provided data on the: number of MDF, 13 provided data on the number of street cabinets, 13 provided data on the length of local loop, 9 provided data on the average trench metre per active subscriber line, 10 provided data on the total average length of the distribution cable.

Appendix

A.1 Countries participating in the 2012 survey

1.	Austria
2.	Belgium
3.	Bulgaria
4.	Croatia
5.	Cyprus
6.	Czech Republic
7.	Denmark
8.	Estonia
9.	Finland
10.	France
11.	Germany
12.	Greece
13.	Hungary
14.	Ireland
15.	Italy
16.	Latvia
17.	Lithuania
18.	Malta
19.	Montenegro
20.	The Netherlands
21.	Norway
22.	Poland
23.	Portugal
24.	The Former Yugoslav Republic of Macedonia
25.	Romania
26.	Slovakia
27.	Slovenia
28.	Spain
29.	Sweden
30.	Switzerland
31.	Turkey
32.	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://berec.europa.eu/documents/erg/index_en.htm.
- 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 (09) 41 Regulatory Accounting in Practice Report 2009.
- BOR (10) 48 Regulatory Accounting in Practice Report 2010.
- BOR (11) 34 Regulatory Accounting in Practice Report 2011.
- BOR (11) 65 BEREC's response to Commission public consultation on costing methodologies.
- 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.

A.3 Treatment of data

Figure 1 – Price control method used in 2012 in the markets listed in Recommendation 2007/879/EC

- One Country, declaring “cost orientation (alone)” for all product of market 4 except for fibre LLU where ”ex post price control” was declared, has been counted as “cost orientation (alone)”.
- One Country, declaring “cost orientation” for close bitstream access of market 5 and ”retail minus” for national bitstream, has been counted as “others”. Another Country, declaring for market 5 “retail minus”, “cost orientation” and “others” according monthly rental for access or dark fibre/Ethernet/other services or bundles, has been counted as “others”.

Figure 2 – Cost base used in 2012 in the markets listed in Recommendation 2007/879/EC

- In market 3 and 7 one NRA applies partly the “HCA” method (for OPEX and overhead costs) and partly “CCA” method (to determine capital costs: depreciation and return on capital employed) and this is presented under modality “Others”.
- In market 4 one Country declared both “HCA” and “Others” according to the different products and this has been counted as “Others”.
- In market 5, one NRA declaring “CCA” and “Others” respectively for dark fibre/Ethernet/other services and bundles, has been counted as “Others”.

Figure 2a – Depreciation method used in 2012 in the markets listed in Recommendation 2007/879/EC when CCA is the cost base

- One country declared different depreciation methods according to different products of market 4. In this figure it has been taken into account only the answer given for “other” products (not fibre).

Figure 3 – Accounting methodology used in 2012 in the markets listed in Recommendation 2007/879/EC

- In market 4 one Country declared both “LRAIC”, “LRIC” and “Others” according to the different products and this has been counted as “Others”.
- In market 5, one NRA declaring “FDC”, “LRIC” and “Others” respectively for dark fibre/Ethernet/other services and bundles, has been counted as “Others”.

Figure 5 – Cost base used in 2012 in the markets listed only in Recommendation 2003/311/EC

- In market 18 one NRA applies partly the “HCA” method (for OPEX and overhead costs) and partly “CCA” method (to determine capital costs: depreciation and return on capital employed) and this is presented under modality “Others”.
- One NRA in market 18 applies “HCA” for digital and “Others” for analogue and has been counted as “Others”.

Figure 8 – Price Control Method Wholesale Line Rental

- One county is missing for this variable since 2009 because the NRA has not imposed any price regulation, but the operator provides the WLR voluntarily and the retail minus is used for price calculation.

Figure 14 – Cost Base Wholesale Broadband Access (Mkt 5)

- One NRA declaring “CCA” since 2007, this year declared both “CCA” and “Others” respectively for dark fibre/Ethernet/other services and bundles, therefore has been counted as “Others” in 2012.

Figure 15 – Accounting Methodology Wholesale Broadband Access (Mkt 5)

- One NRA declaring “FDC” since 2007, this year declared “FDC”, “LRIC” and “Others” respectively for dark fibre/Ethernet/other services and bundles, therefore has been counted as “Others” in 2012.

Figure 16 – Price Control Method Wholesale Broadband Access (Mkt 5)

- One Country counted as “others” declared “cost orientation” for local bitstream access and “retail minus” for IP bitstream access.
- One Country, declaring “retail minus” since 2008, this year declared “retail minus”, “cost orientation” and “others” according monthly rental for access or dark fibre/Ethernet/other services or bundles, therefore has been counted as “others”.

Figure 18 – Accounting Methodology LL Terminating Segment (Mkt 6)

- In 2012 for one Country this market is under analysis while for another one there is a draft decision and has been treated as missing data in 2012.

A.4 Glossary

Linear depreciation: belongs to the family of constant depreciation methods where the depreciation share is stable and the cost of capital share decreases over time which results in decreasing annuities. Constant depreciations not readjusted for price evolution are usually referred to as “linear depreciation”.

Constant Annuity: calculates the charge that, after discounting, recovers the asset’s purchase price and financing costs in equal annual costs. At the beginning, the payment will consist more of capital payments and less of depreciation charges, while over time it will be the opposite, resulting in an upward sloping depreciation schedule (increasing depreciation charges).

Tilted annuity: when the asset’s price is expected to change over time, a tilted annuity would be more appropriate. This methodology calculates an annuity charge whose value changes from year to year at the same rate as the price of the asset is expected to vary.

Economic depreciation: this methodology becomes more appropriate when, besides asset’s price changes, there is an expectation of changes in output which affects asset’s quantities. This methodology takes into account both price changes and output changes.