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BEREC Report
Regulatory Accounting in Practice 2011

October 2011

1. Executive Summary

This is the seventh 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 2011 and also illustrates trends and comparisons with data collected each year from 2006.

This year's 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, compared to 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.

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 a NRA but do 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. 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 as 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 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 seventh 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 2011 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 in last years.

The report benefits from information collected from the 29 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

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[1] - 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.

[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.

implemented by the end of 2011, although the final decisions may be still subject to outstanding consultations and may therefore be part of the second or 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 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)*
- *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)*

[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.

[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.*”

- *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. This year's 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 of *ex ante* regulation, the 2011 report follows how the deregulation process is developing in Europe.

[7] Recommendation 2007/879/EC.

3. Outline of the Results

3.1 A snapshot of 2011 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 correspondent 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

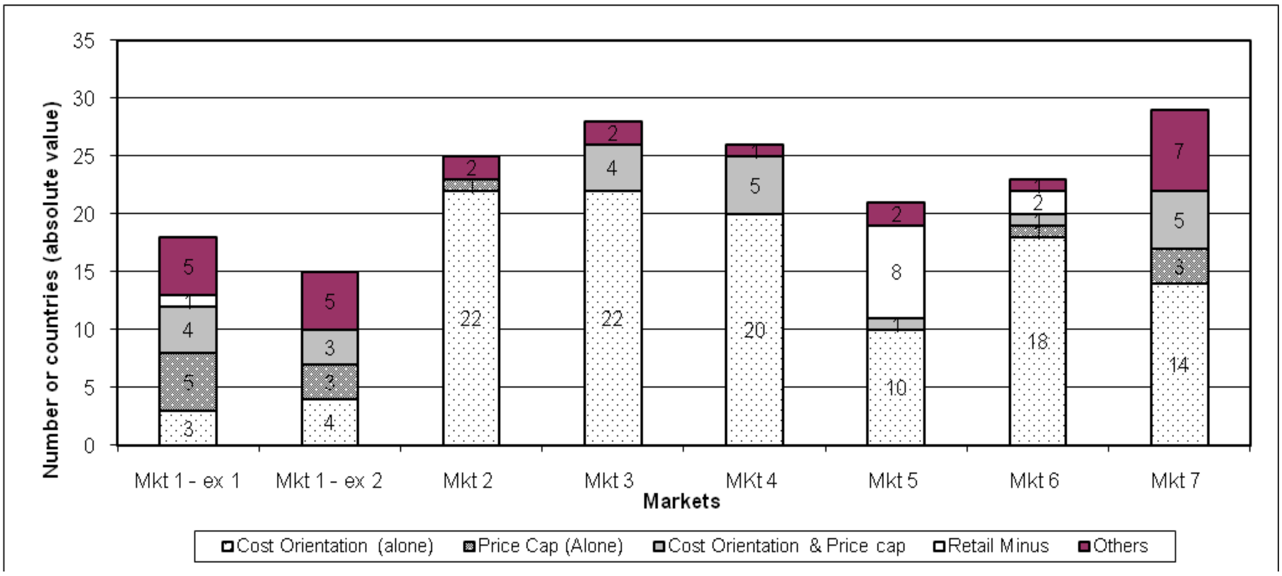
Source: BEREC RA database 2011

[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 2011 for regulating the markets listed in the new Recommendation (2007/879/EC).

Figure 1 – Price control method used in 2011 in the markets listed in Recommendation 2007/879/EC



Source: BEREC RA database 2011

In particular, the Figure above gives an overview of the price control methods used to regulate the market listed in the EC 2007 Recommendation in the year 2011.[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.

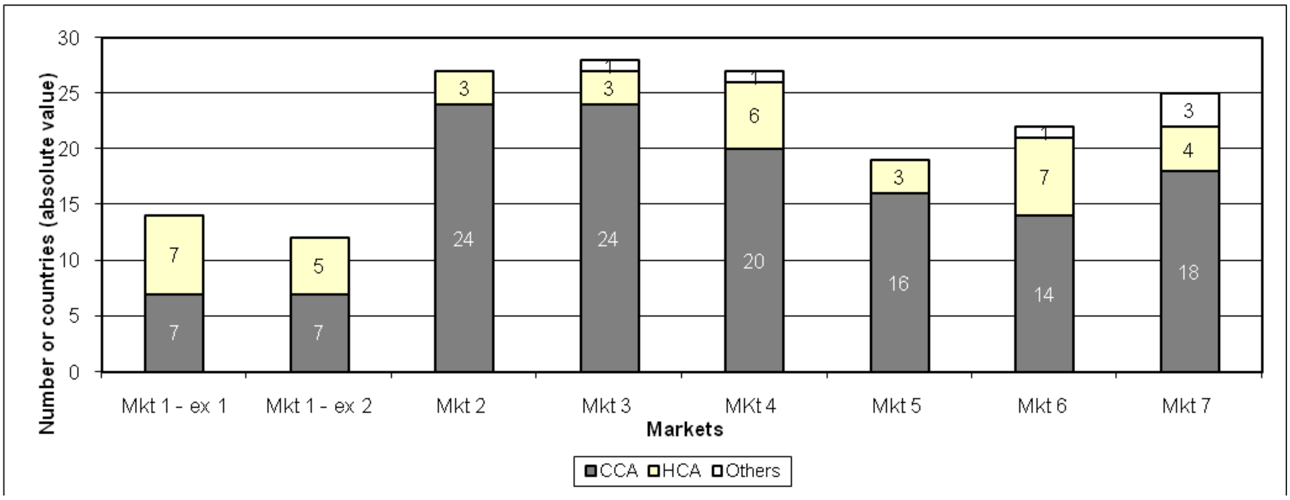
Figure 1 shows that cost orientation remains the most commonly used price control method in wholesale markets. In market 5 (WBA) also the Retail Minus method is spread among eight NRAs to set prices. Other common price control methods used in wholesale markets are cost orientation accompanied by a price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

Compared to 2010 data, where "Benchmarking" was adopted by one NRAs in markets 2, 3 and 4 and four NRAs in market 7, in 2011 "Benchmarking" is 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).

As far as the cost base is concerned, Figure 2 shows that also in 2011 CCA is by far the most commonly used methodology, in particular for wholesale markets.

[10] The modality "Others" includes also "Benchmarking" and *ex-post* price control method.

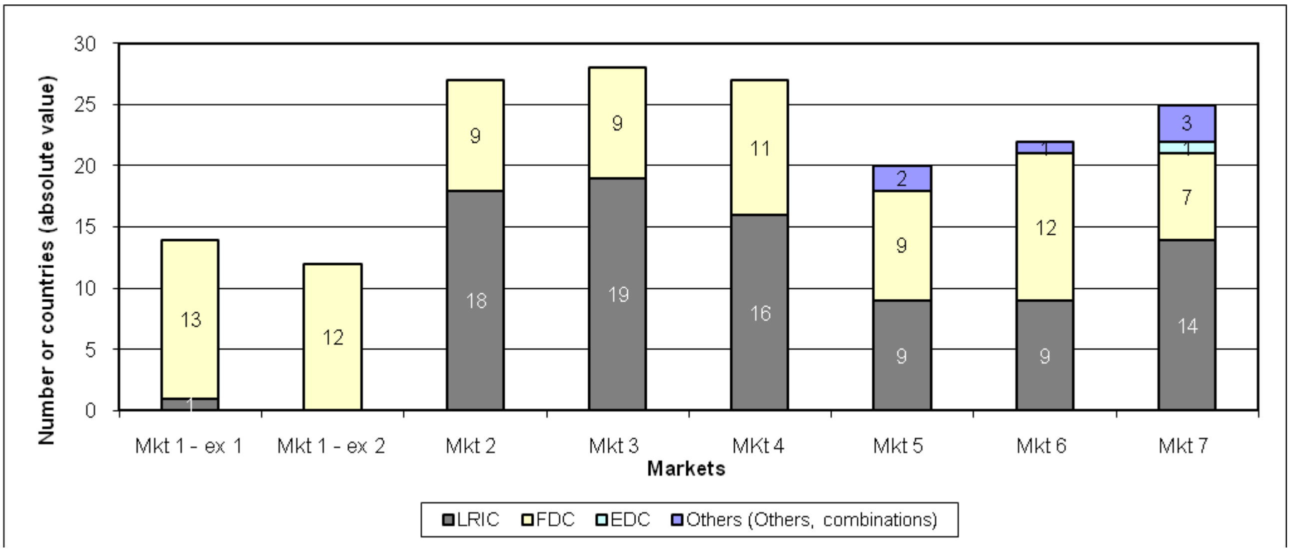
Figure 2 – Cost base used in 2011 in the markets listed in Recommendation 2007/879/EC



Source: BEREC RA database 2011
In market 3, 4 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".
"FL CCA" is presented under modality "CCA".

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 one NRA declaring LRIC), they mainly use LRIC in wholesale markets.

Figure 3 – Accounting methodology used in 2011 in the markets listed in Recommendation 2007/879/EC



Source: BEREC RA database 2011

3.2 A snapshot of 2011 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 anymore susceptible of *ex ante* regulation.[11]

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 anymore included in the EC Recommendation, Table 2 shows the number of countries with some price control[12] or accounting obligation[13] still in place since 2008.

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
Market **3:** National fixed Residential Services	15	15	9	9
Market **4**: International fixed Residential Services	9	9	4	5
Market **5**: National fixed Non-Residential Services	13	11	10	10
Market **6:** International fixed Non-Residential Serv.	10	10	6	7
Market **7:** Leased Lines	17	15	13	12
Market **10:** Fixed Transit Services Wholesale	19	16	14	11
Market **14:** Trunk Segments Wholesale	12	12	11	10
Market **15:** Mob. Access and Origination Services	3	3	4	3
Market **17:** International Roaming	1	1	0	0
Market **18:** Broadcasting Services	13	14	13	11

Source: BEREC RA database 2011

[11] 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.

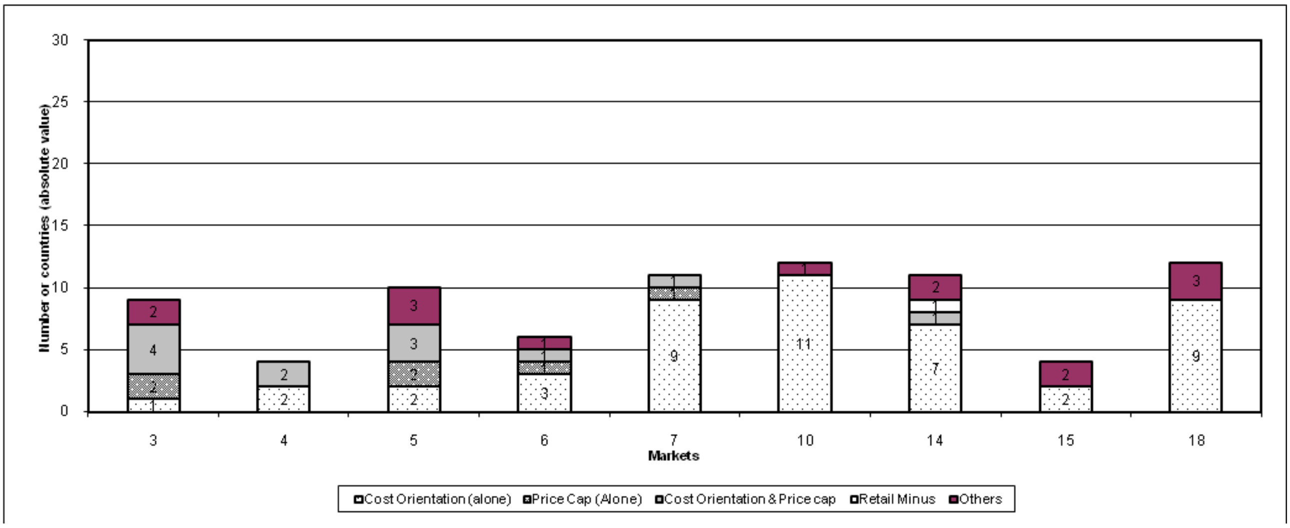
[12] Art. 13 Access Directive, Art.17 Universal Service Directive.

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

Table 2 shows that the number of countries in which some price control and/or accounting obligations is in place decreased over time[14], confirming that some NRAs have already started the liberalisation process envisaged by the new Recommendation (see for example market 7, 10 and 18). This trend is, as expected, particularly evident for retail markets.

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

Figure 4 – Price control method used in 2011 in the markets listed only in Recommendation 2003/311/EC

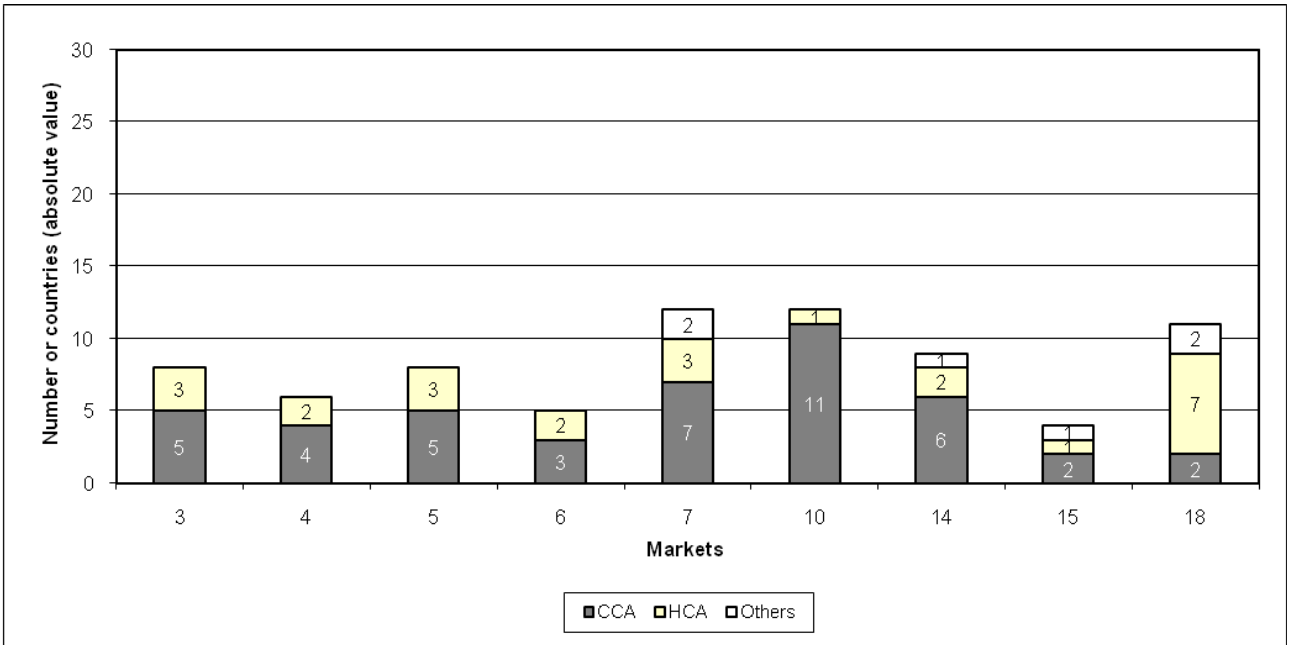


Source: BEREC RA database 2011
Market 17 (International Roaming) has been excluded from this figure because under EU regulation.

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 prevailing cost base and in market 18, on the contrary, the prevailing cost base is HCA. CCA and HCA seem to be used in the same proportion in retail markets.

[14] The increase in number of countries with price control and/or accounting obligation in 2011 for markets 4 and 6, is due to the inclusion of one country not monitored in the last year.

Figure 5 – Cost base used in 2011 in the markets listed only in Recommendation 2003/311/EC

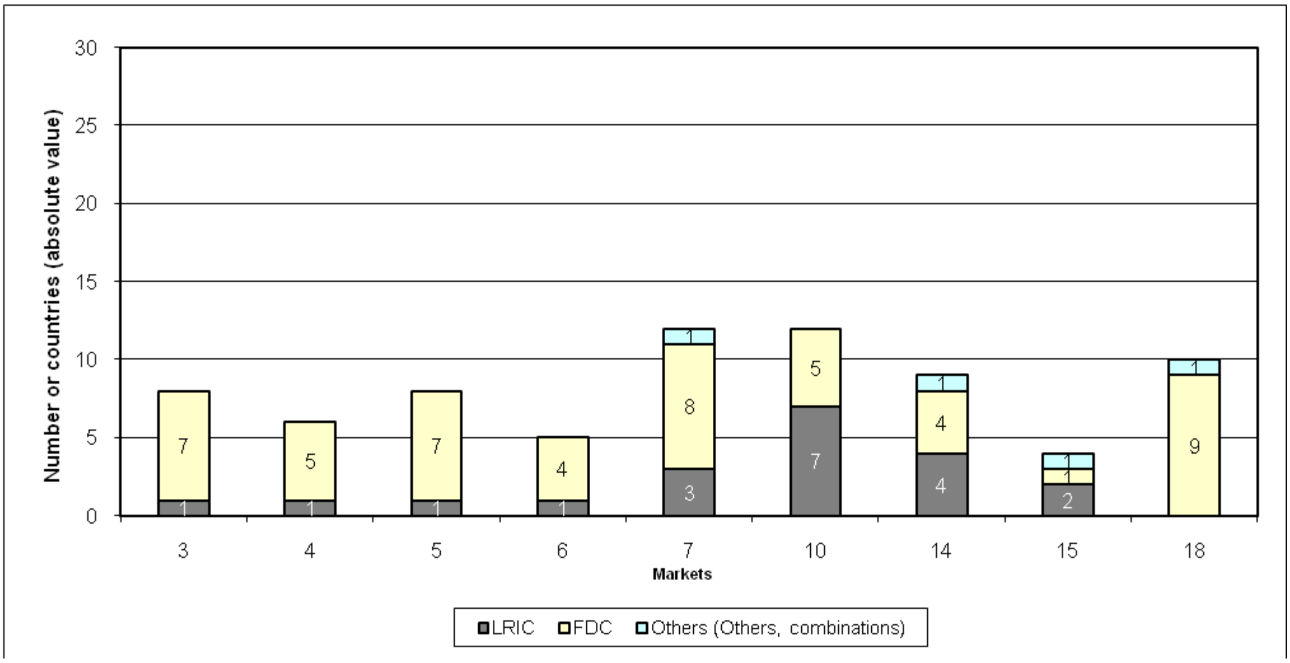


Source: BEREC RA database 2011
In market 18 one NRA applies partly the "HCA" method (for OPEX and overhead costs) and partly "CCA" method (to determine capital costs: depreciation and return on capital employed) and this is presented under modality "Others". One NRA in market 18 applies "HCA" for digital and "Others" for analogue and has been counted as "Others".
Market 17 (International Roaming) has been excluded from this figure because 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 use also 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 2011 in the markets listed only in Rec. 2003/311/EC



Source: BEREC RA database 2011
Market 17 (International Roaming) has been excluded from this figure because 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 2011) in the various markets has been illustrated as far as price control, cost base and accounting methodology 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 of *ex ante* regulation: ULL (market 4), WBA (market 5) and Terminating Segments of Leased Lines (market 6).

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[15] 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.

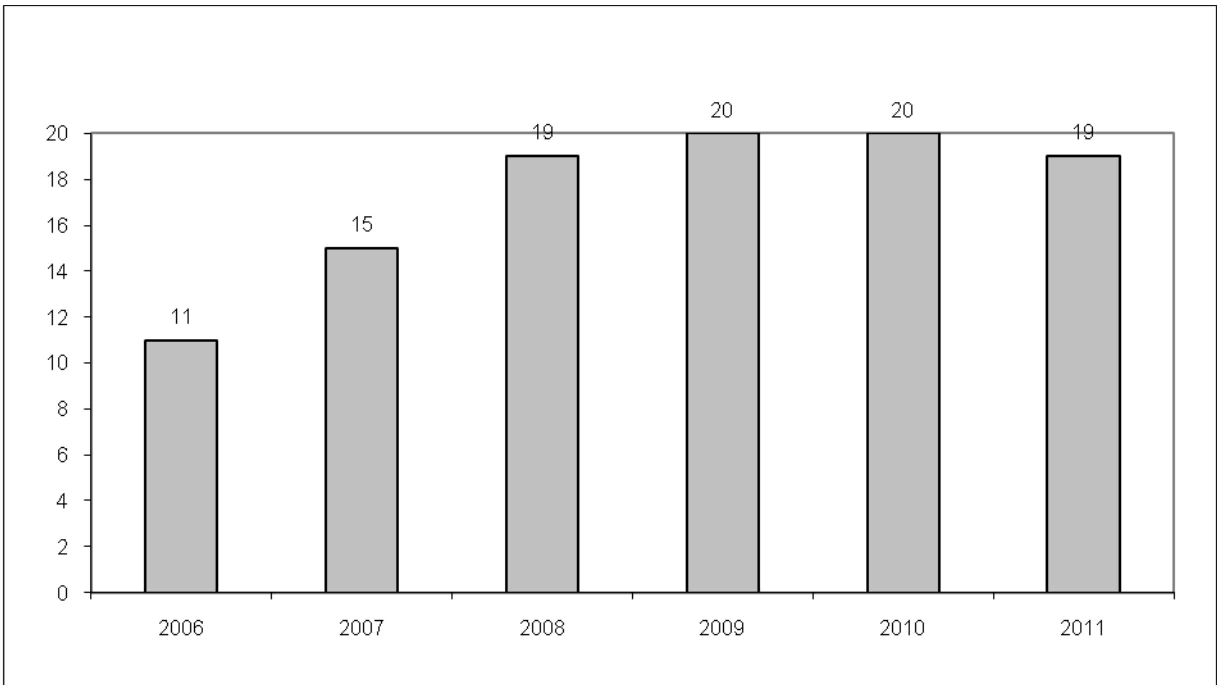
[15]The actual number of countries considered is reported in the footnote below each figure.

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 where the WLR obligation is in force increased over time. In 11 out of 28 NRAs providing information, the WLR obligation has been in place since 2006, but the number increased to 20 in 2009 and 2010 (Figure 7). It should be pointed out that in those countries where WLR is not mandatory, NRAs do not have information about commercial WLR offers.

Figure 7 – Number of Countries with WLR obligation by year



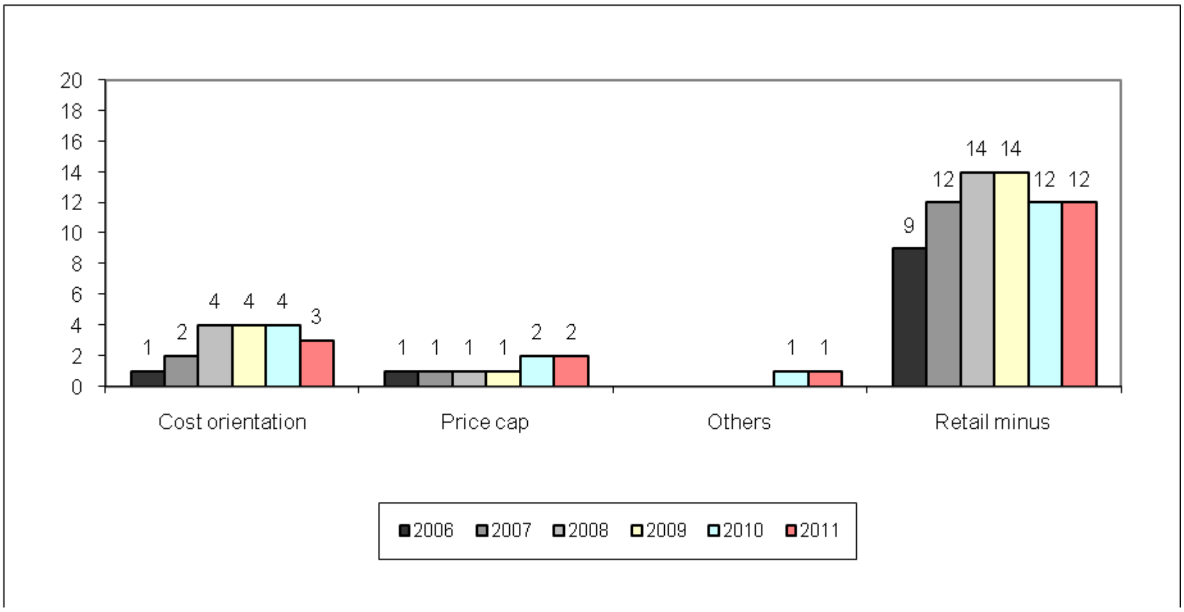
Source: BEREC RA database 2011
Number of countries: 28
The number of countries with WLR obligation in 2011 is less than 2010 due to a missing country in 2011 with WLR obligation in previous years.

Trend analysis:

Price control method

The most used price control method declared in 2011 by 12 NRAs out of 18 is retail minus. It was the most common methodology also for previous years (Figure 8).

Figure 8 – Price Control Method Wholesale Line Rental

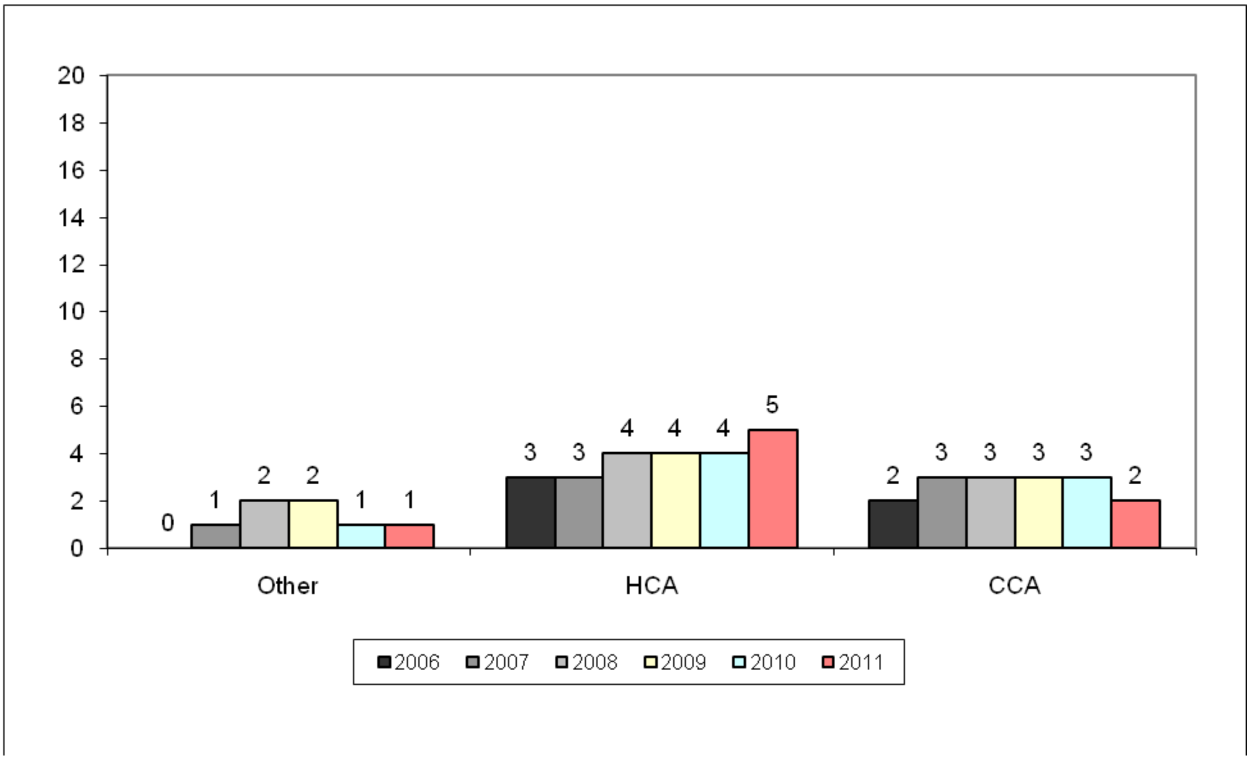


Source: BEREC RA database 2011
Number of countries: From 11 for 2006 to maximum 19 for 2010.
One county is missing for this variable since 2009 because the NRA has not imposed any price regulation, but the operator provides the WLR voluntarily and the retail minus is used for price calculation.

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 in 2011 the number of countries using HCA as cost base exceeds those using CCA (Figure 9a).

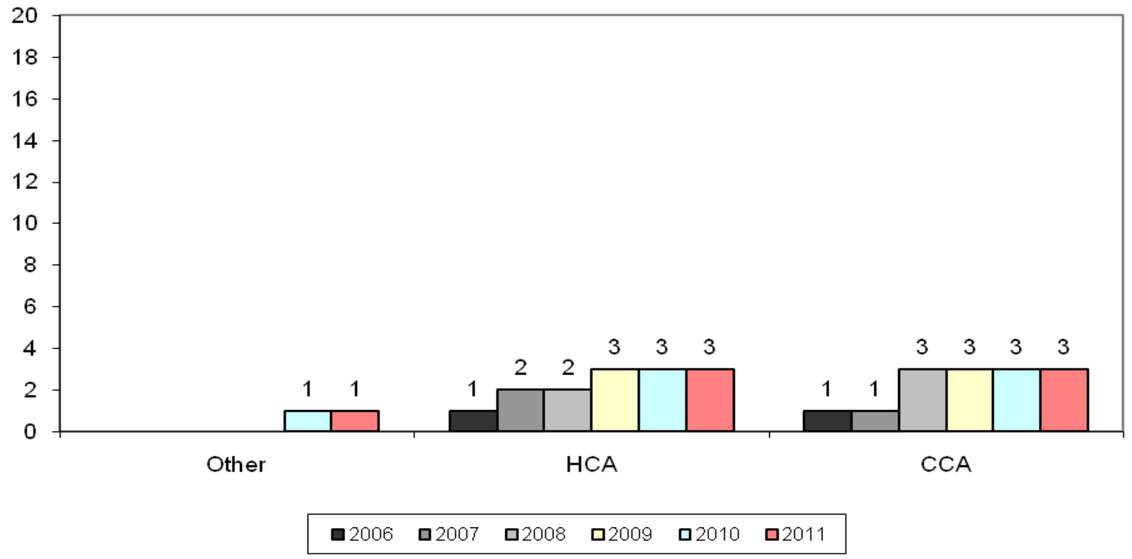
Figure 9a – Cost Base Wholesale Line Rental for Countries with Retail Minus as Price Control Method



Source: BEREC RA database 2011
Number of countries: From 9 for 2006 to maximum 14 for 2008/2009. Missing countries for this variable vary between 4 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 equal those adopting CCA (Figure 9b).

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

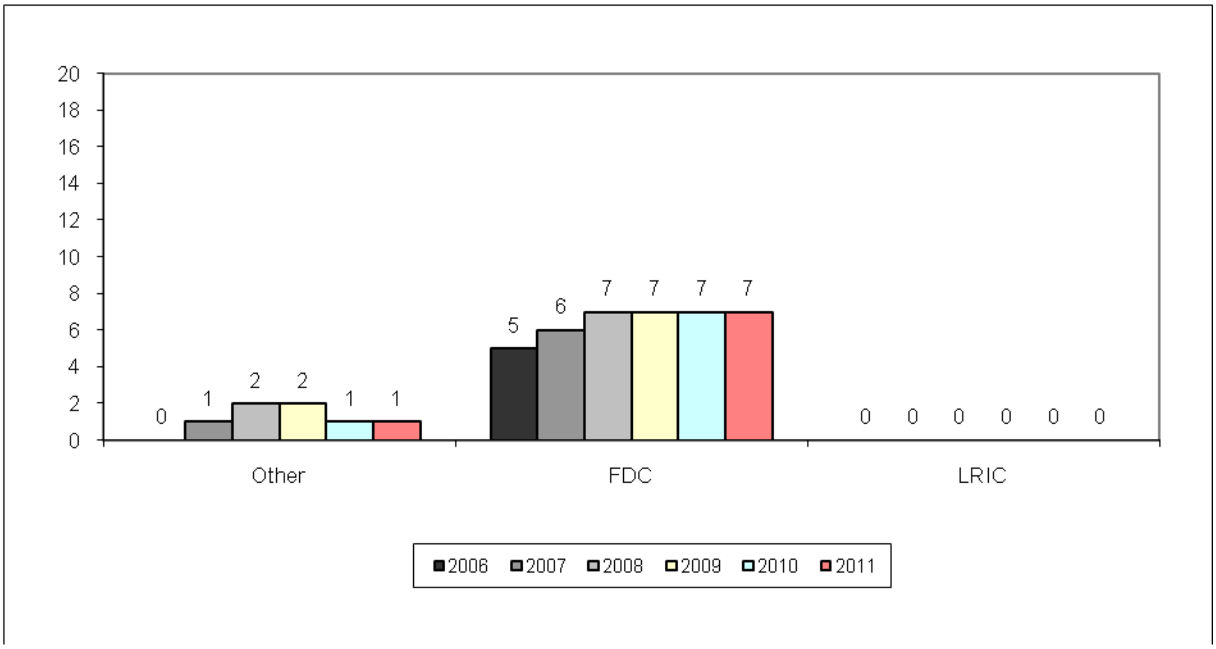


Source: BEREC RA database 2011
Number of countries: From 2 for 2006 to maximum 8 for 2010. 1 missing country for this variable in 2010.

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 seen an increase from 2006 to 2007 remaining stable since 2007. One NRA declared to use other accounting methodology and the pattern has been stable since last year.

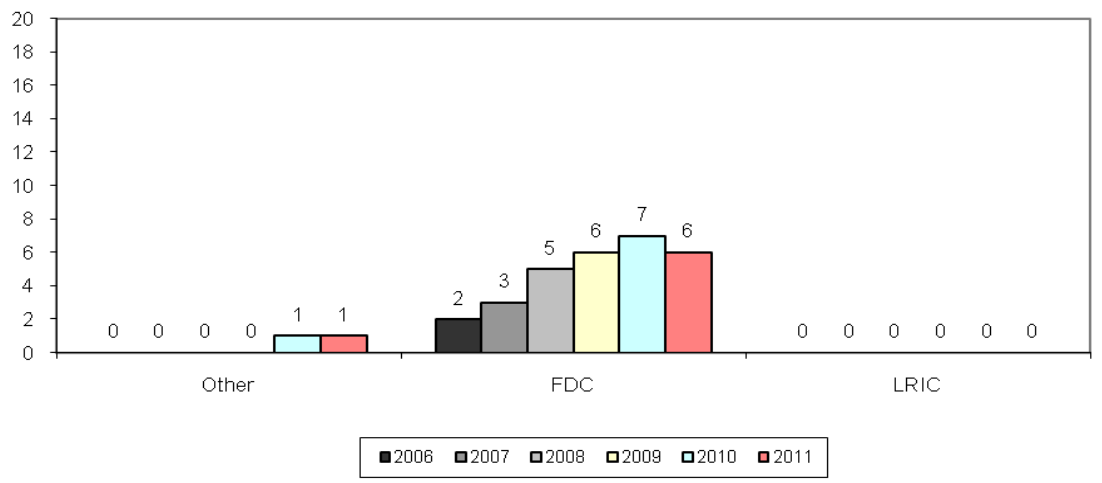
Figure 10a – Accounting Methodology Wholesale Line Rental for Countries with Retail Minus as Price Control Method



Source: BEREC RA database 2011
Number of countries: From 9 for 2006 to maximum 14 for 2008/2009. Missing countries for this variable vary between 4 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 kinds of Price Control Method



Source: BEREC RA database 2011
Number of countries: From 2 for 2006 to maximum 8 for 2010.

<u>Key points for WLR over time:</u> FDC and retail minus are respectively the most popular accounting methodology and price control method. CCA and HCA are declared quite in the same proportion in the last two years. 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 market identifying the corresponding local incumbent operators as having SMP.

Trend analysis:

Cost base

CCA is the cost base declared by 20 NRAs taking part in the survey for year 2011 (see Figure 2). Unlike Figure 2, which is based on data for the 27 countries that answered the 2011 BEREC questionnaire, the figure below gives an insight into how the choice of cost base changed over time, taking into account only data provided by 22 NRAs every year since 2007. Figure 11 shows a 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 with an increase of 3 countries from 2007 to

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. Only one country declared to adopt another methodology.[16]

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)[17], is not necessarily observed in the unbundled access market. In addition to that, it has to be taken into account that recently copper prices have been fluctuating significantly and the picture 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. 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.

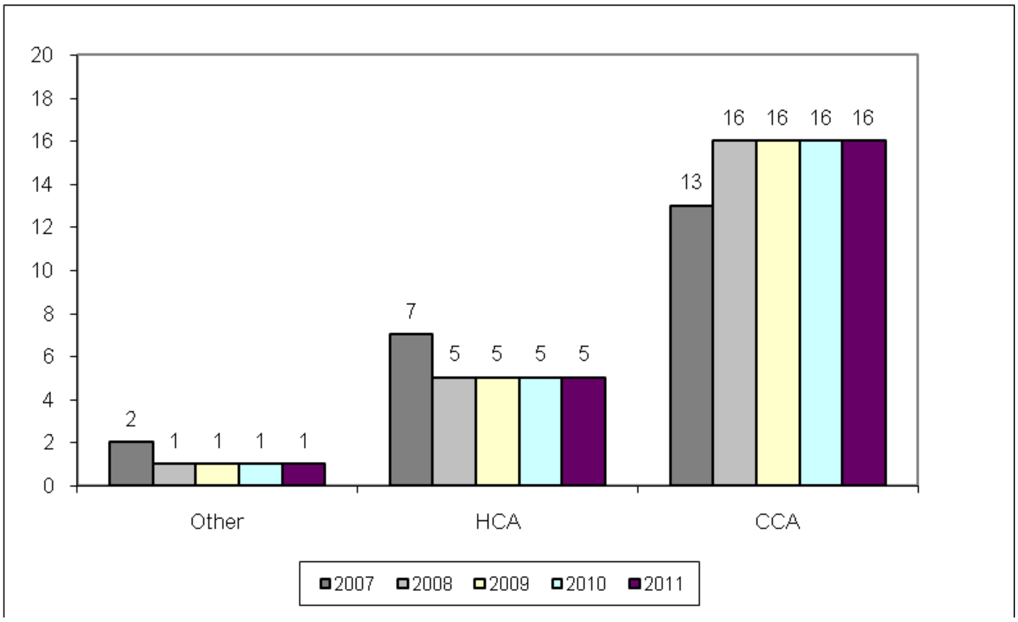
If these considerations are correct they may have an impact on all the other access services that use the same assets to provide ULL services.

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

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

[17] 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)

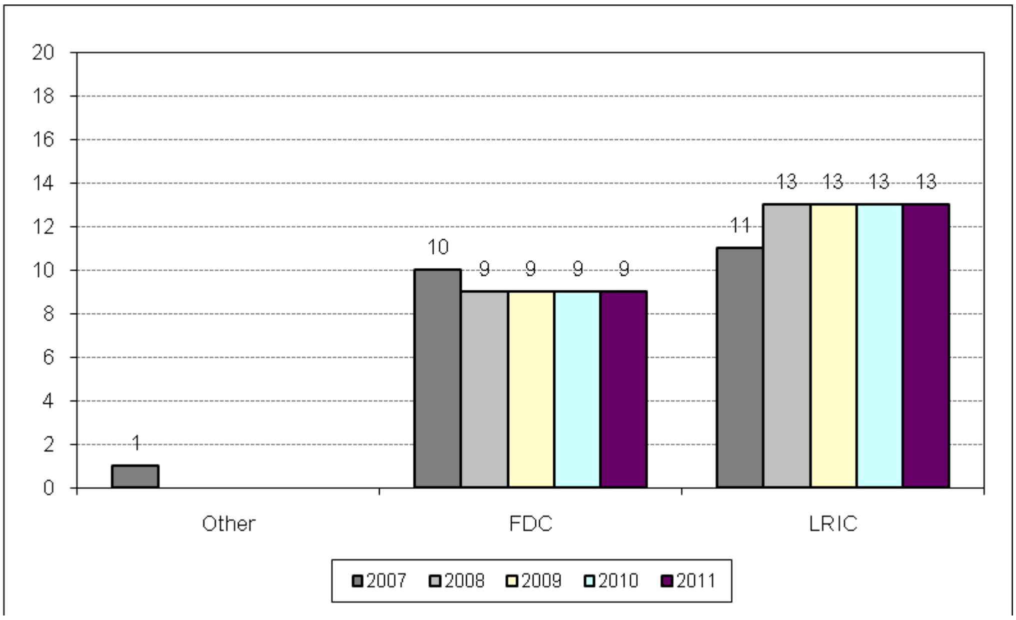


Source: BEREC RA database 2011
Number of countries: 22

Accounting methodology

Figure 3 shows that the most common accounting methodology in 2011 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, 2009 and 2010. Correspondingly, a slight reduction in the number of countries using FDC is observed (from 10 in 2007 to 9 in 2008 and following years).

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

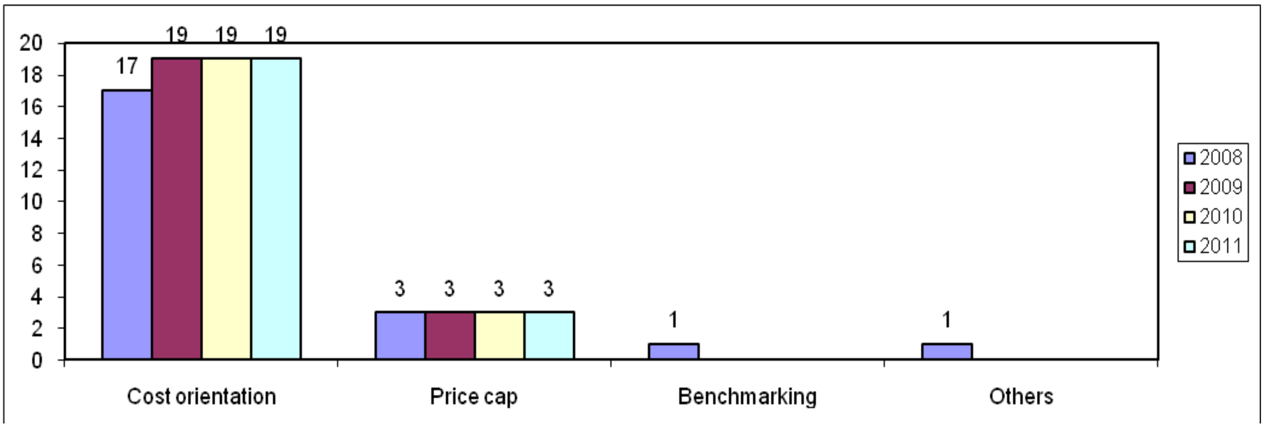


Source: BEREC RA database 2011
Number of countries: 22

Price control method

The most common price control method for 2011 in unbundled access wholesale market is by far cost orientation (Figure 1), which is declared by 20 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 since 2009 two NRAs have moved from benchmarking or another type of price control to cost orientation.

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



Source: BEREC RA database 2011
Number of countries: 22

<u>Key points for Market 4 over time:</u> 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".[18]

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

Trend analysis:

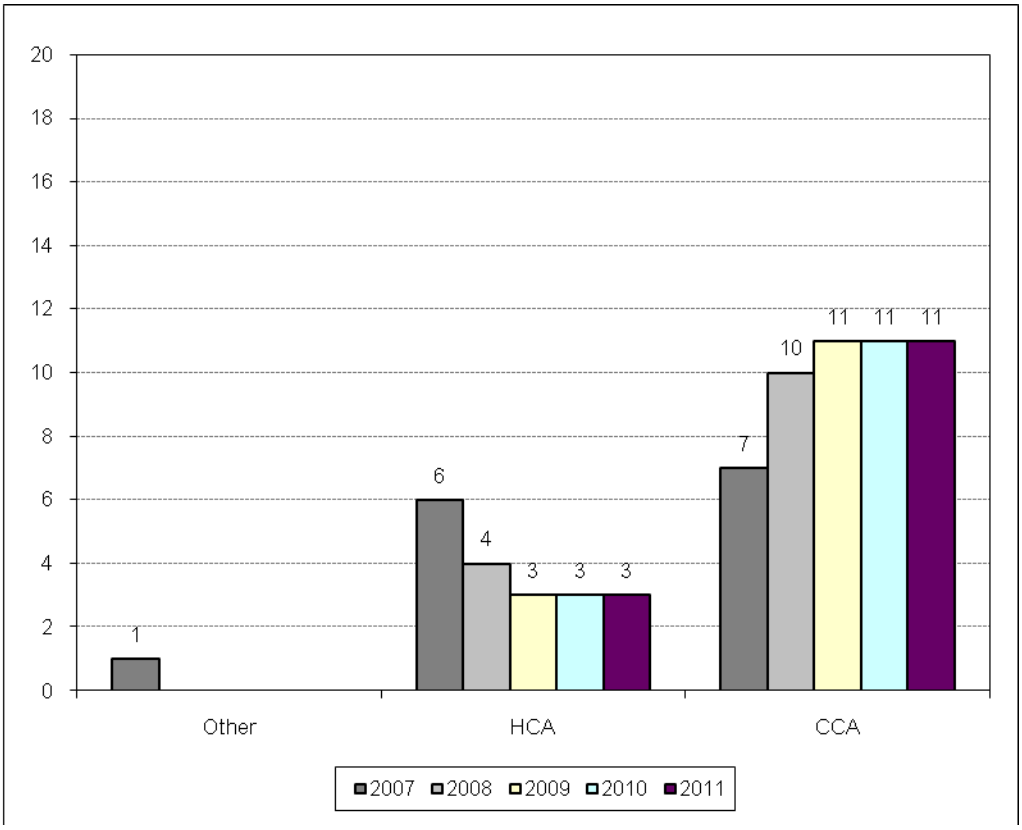
Cost base

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

[18]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. Also 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 in 2011 compared to 2010.
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)

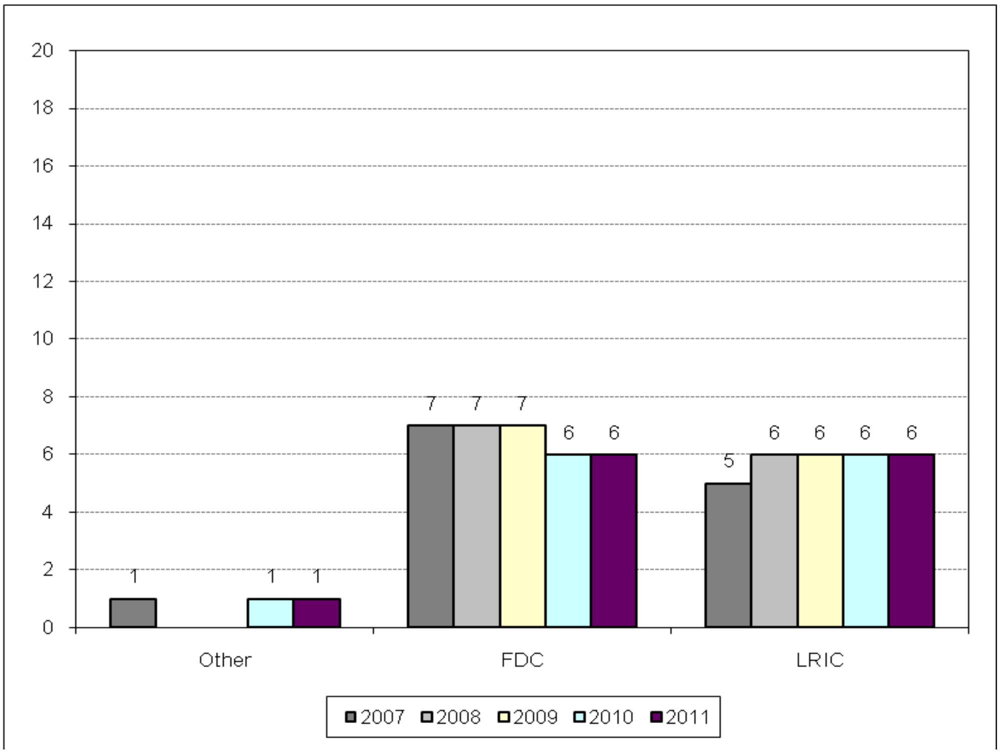


Source: BEREC RA database 2011
Number of countries: 14

Accounting methodology

Figure 15 shows the accounting methodology used in the wholesale broadband access market by 13 countries since 2007. It can be observed that one NRA passed from using the FDC method to another accounting methodology in 2010 and this trend is stable also in 2011, 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)

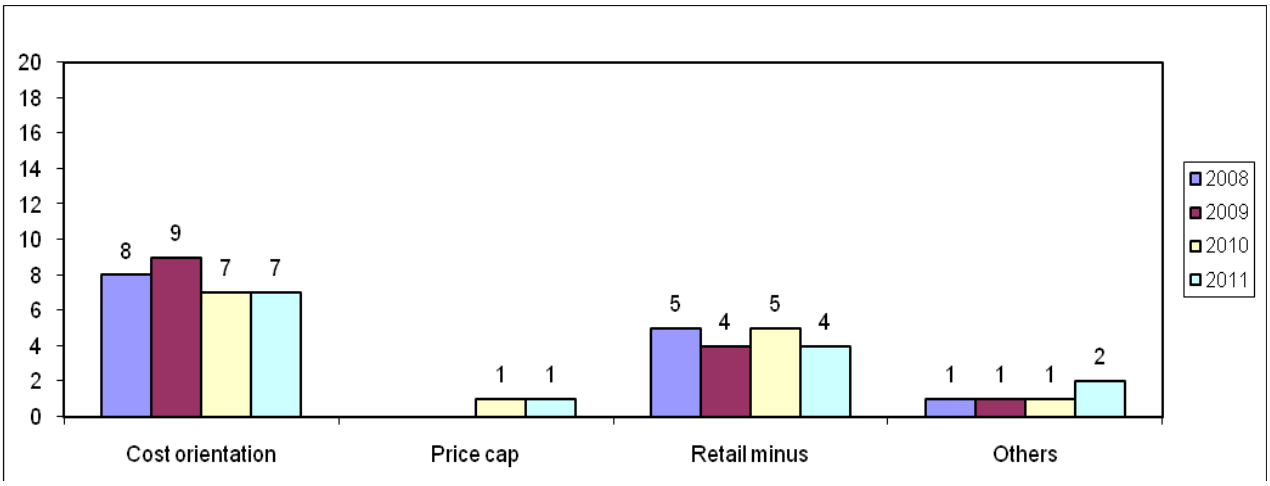


Source: BEREC RA database 2011
Number of countries: 13

Price control method

The most used price control methods for 2011 in wholesale broadband access market are cost orientation and retail minus (Figure 1), declared respectively by 10 and 8 NRAs. However, taking into account 14 countries answering the questionnaires since 2008, it can be observed (Figure 16) that in 2011 one NRA changed methodology from retail minus to others.

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



Source: BEREC RA database 2011
Number of countries: 14
One Country counted as "others" declared a mark-up on cost-oriented results for LLU/fiber, while the other one declared "cost orientation" for local bitstream access and "retail minus" for IP bitstream access.

It remains to be seen whether this situation will change with the implementation of the EC Recommendation on Next Generation Access.

<u>Key points on Market 5 over time:</u> CCA is, by far, the most common cost base in 2011. As far as the accounting methodology is concerned, the number of countries using LRIC is almost the same of 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 round of market analysis.[19]

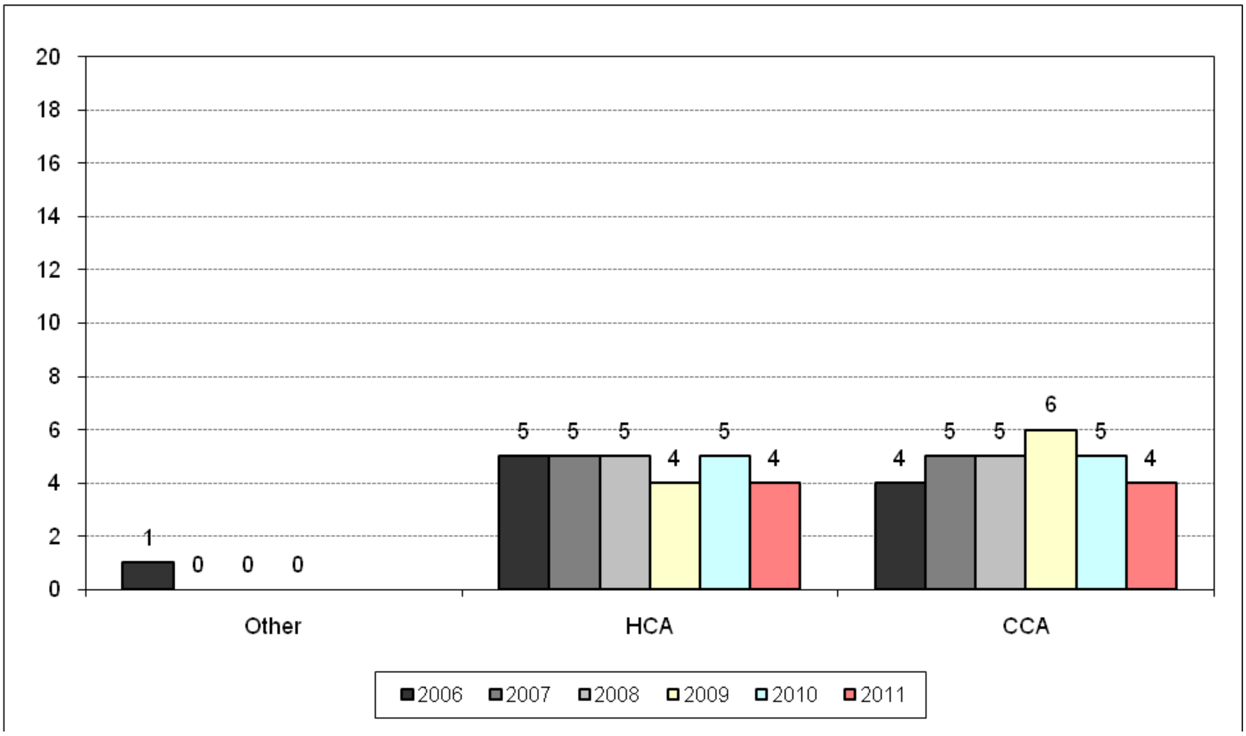
Trend analysis:

Cost base

The figure below – unlike Figure 2, which shows data for 22 countries – 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 2011. It could be said that from 2009 to 2010 one NRA moved from CCA to HCA and CCA and HCA are equally spread in 2011 for those countries observed since 2006.

[19] 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.

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



Source: BEREC RA database 2011
Number of countries: 10. In 2011 for one Country this market is under analysis while for another one this market is not regulated in 2011.

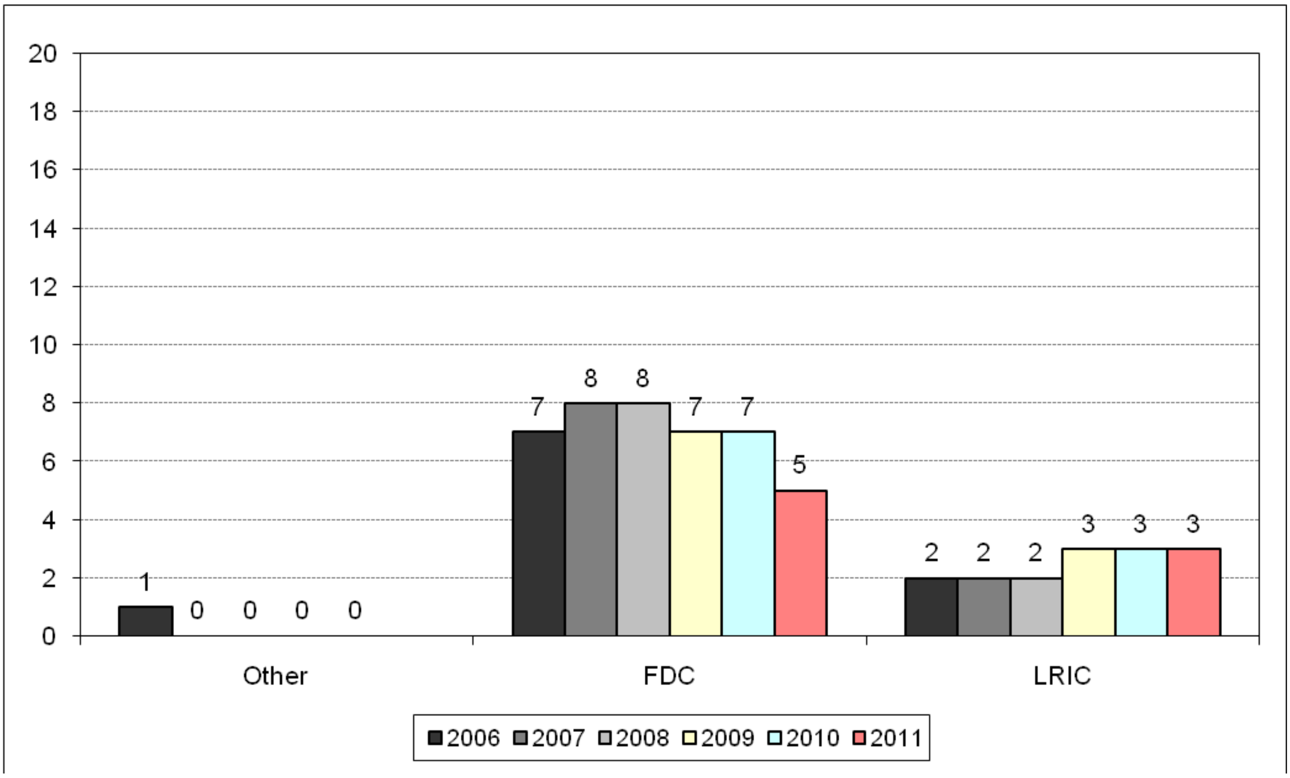
Accounting methodology

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 five year period analysed.

The most common accounting methodology in the leased line wholesale terminating market for the countries under observation since 2006, although decreasing over time, is FDC. At the same time, the number of countries using LRIC has been stable since 2009.[20]

[20] As far as other methodologies are concerned, the country declared to use adjusted FDC, taking into account efficiency adjustments.

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

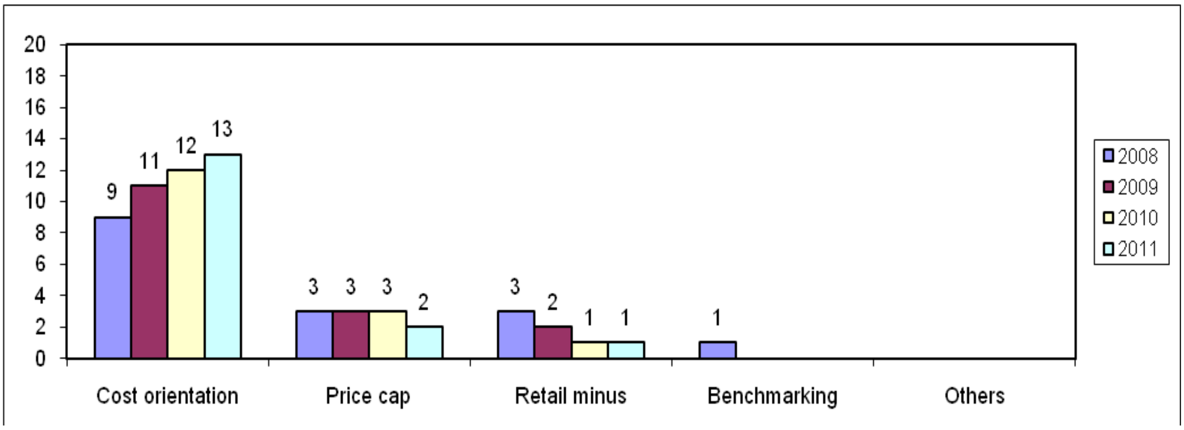


Source: BEREC RA database 2011
Number of countries: 10. In 2011 for one Country this market is under analysis while for another one this market is not regulated in 2011.

Price control method

Cost orientation is the price control method used by more than 80 per cent NRAs in 2011. Taking into account the 16 countries whose data were collected since 2008, it can be observed that cost orientation is spread more than other methods over time and that 2011 one country changed from price cap to cost orientation.

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



Source: BEREC RA database 2011
Number of countries: 16

Key points for Market 6 over time: **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[21], in this market, for all countries, 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 are not usually 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".

Meantime this paragraph reports data on cost base and price control evolution over time, referred to incumbent operators. Unlike Figures 2 and 3, which show data only for those countries participating in the 2011 survey with no missing information, the figures below show data for those NRAs that have provided the relevant information since 2006.

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

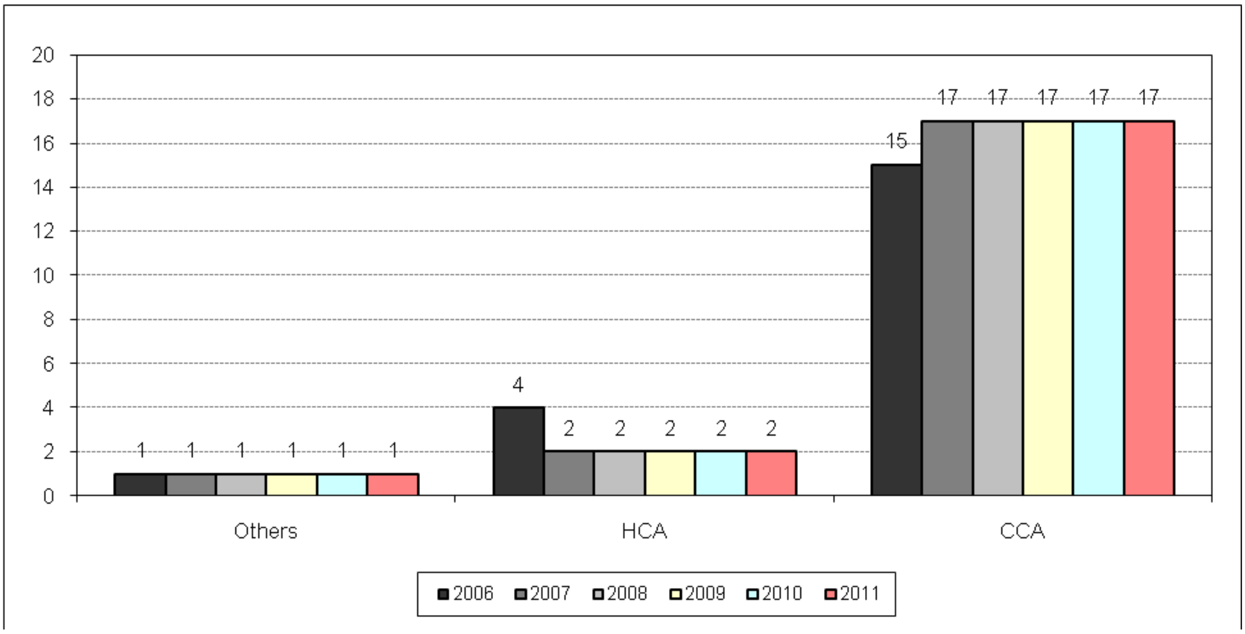
Trend analysis:

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 six year period under observation.

It results that the most common cost base for fixed networks is CCA (always above 80 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. Only one country declared to have been using another type of cost base, since 2006.[22]

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



Source: BEREC RA database 2011
Number of countries: 20

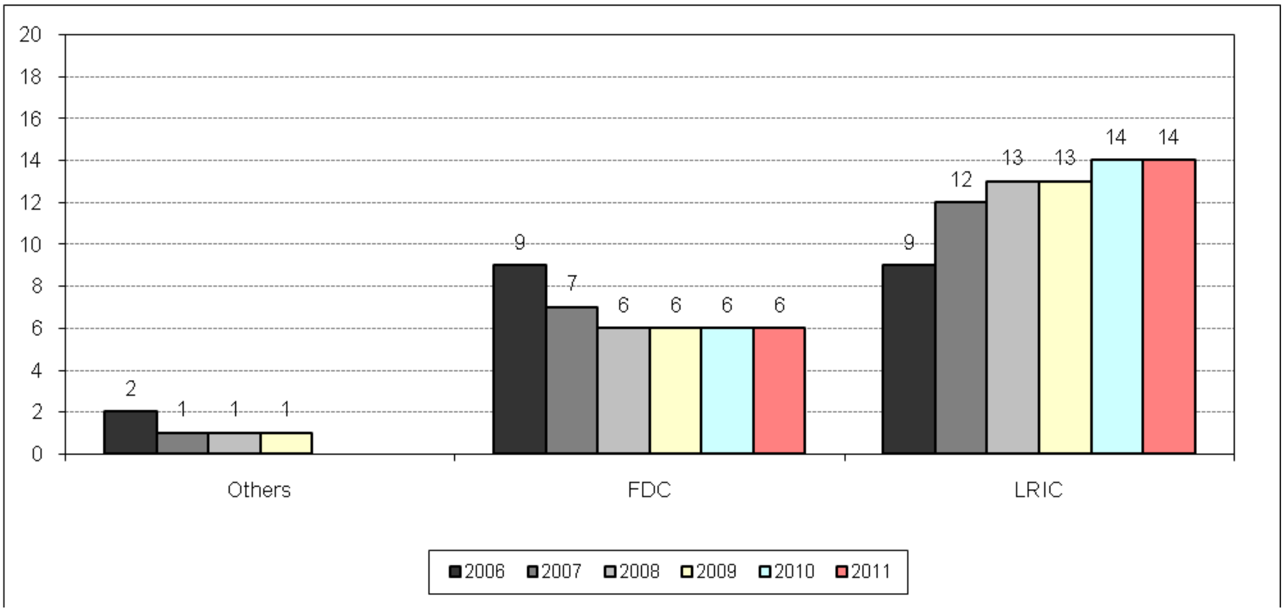
Accounting methodology

Figure 21 shows the number of countries using LRIC, FDC or other mixed methodologies for fixed termination services from 2006 to 2011.

The figure shows a significant number of countries using LRIC for determining fixed termination tariffs since 2007. As a consequence of this trend, a sharp reduction in the number of countries using FDC is observed over time.

[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.).

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



Source: BEREC RA database 2011
Number of countries: 20

<u>Key points for Market 3 over time:</u> CCA is the preferred cost base for this market combined with LRIC as the costing methodology. This trend will likely be reinforced with the implementation of 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.

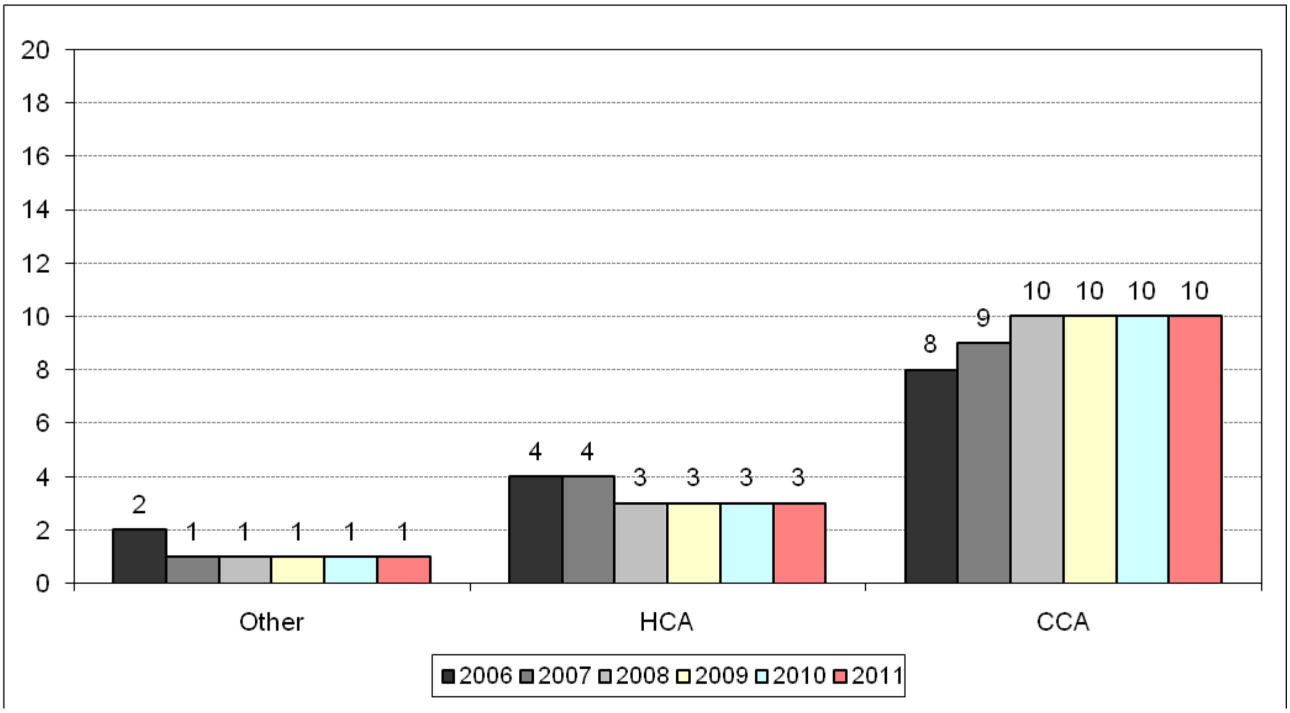
Trend analysis:

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 2011. Since 2006 the most commonly used cost base for mobile networks has been CCA. 10 NRAs out of 14 are applying CCA in 2011 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.

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

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



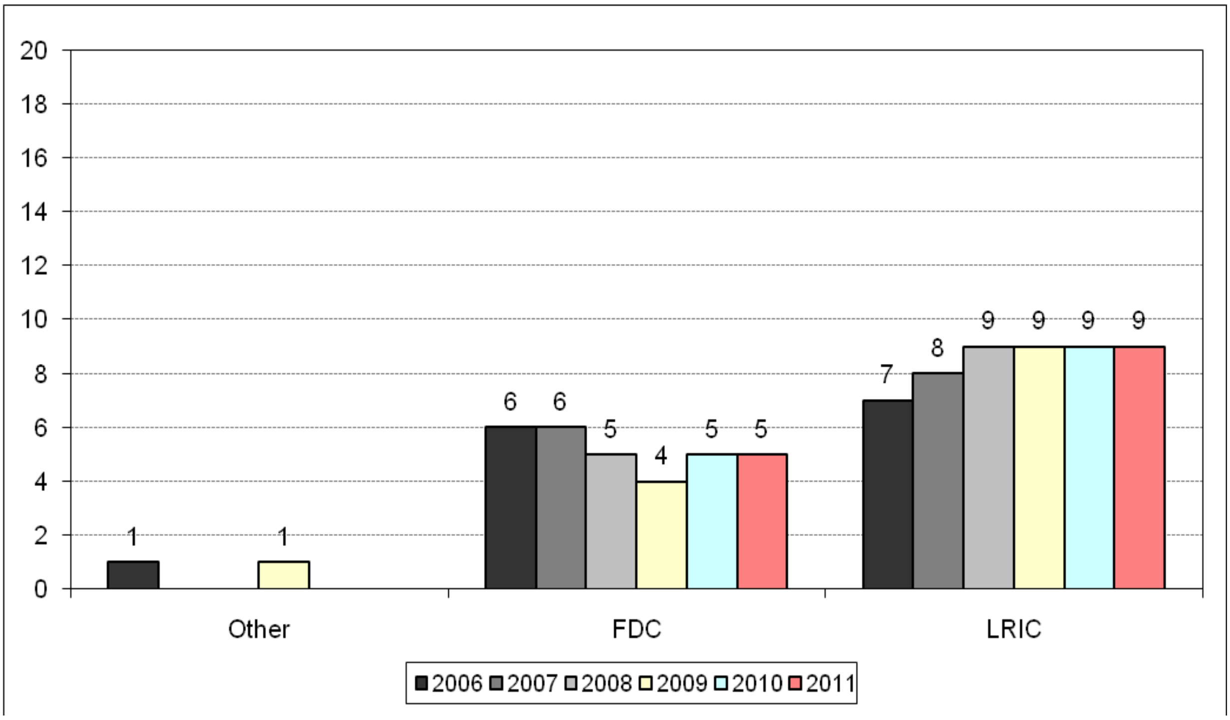
Source: BEREC RA database 2011
Number of countries: 14

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 six 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 and has remained stable since 2008. In the same time frame, the number of countries using FDC and other methods has been decreasing.

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



Source: BEREC RA database 2011
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 over time: **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 alone or combination of BU-LRAIC and TD-LRAIC) is foreseen as a first option.**

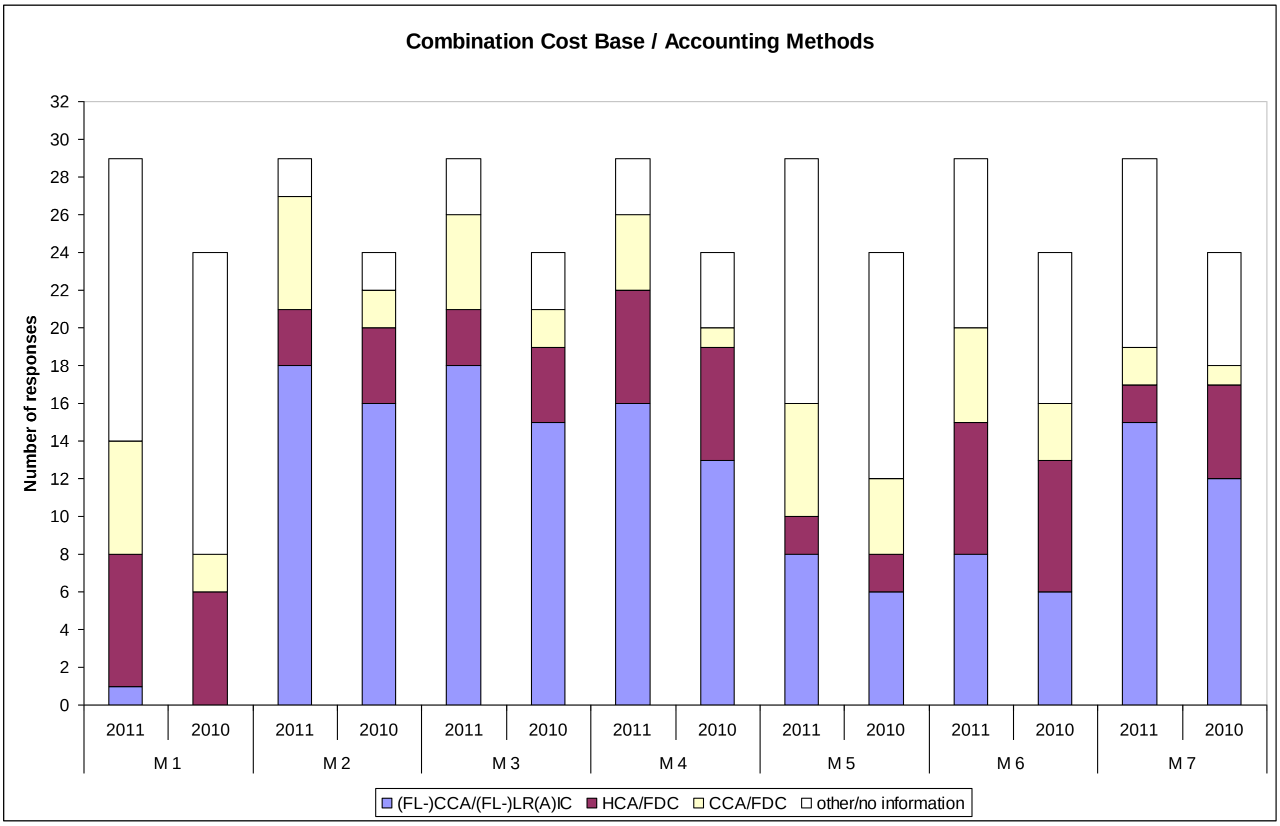
3.5 Combination of cost base and accounting methodology – all markets

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

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

For most markets, except market 1, the preferred combination is (forward-looking) CCA and (forward-looking) LR(A)IC. This choice of combination has been increasing in popularity since 2010, in particular in market 4 (and in the markets for fixed and mobile termination, see ch. 3.4). For market 1 the most popular combination is HCA/FDC (if still regulated). For markets 2 and 3 the most common combination in 2010 and 2011 was a CCA/LRIC. This combination was utilised increasingly in 2011. In market 6 the choice of CCA/FDC dominates in 2011 and 2010 whereas in market 5 the combinations of CCA/LRIC increased, albeit the combination of CCA/FDC is close by (in 2011). In market 7 some NRAs apply other methods (e.g. five countries have used benchmarking in 2011).

Figure 24 – Combination of Cost Base and Accounting Methods



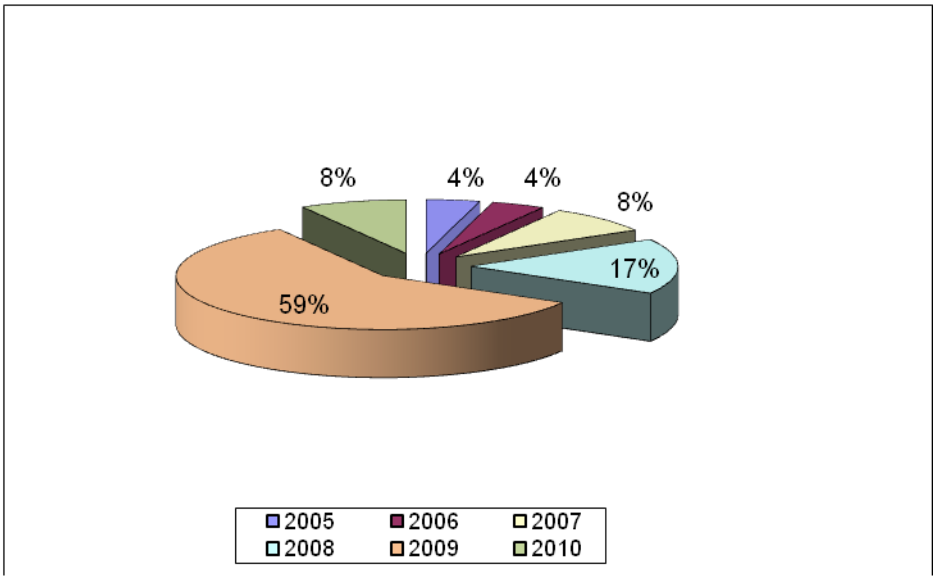
Source: BEREC RA database 2011

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 data updated to June 30th 2011, for 59 per cent of NRAs[23], the last year audited was 2009 and 8 per cent of NRAs the last year audited was 2010 (Figure 25).

Figure 25 – Last year audited – 2011



Source: BEREC RA database 2011
Number of countries: 24

Comparing 2010 and 2011 data[24], it can be observed that for more than 60 per cent of the countries the auditing process progressed by at least one year, while only one NRA declared this year that the last auditing process took place in 2005. Table 3 is an origin-destination table showing respectively in rows and columns the last audited year as declared by NRAs in 2010 and 2011. Three countries that last year declared that their last audited year was 2007, this year declared respectively 2008 and 2009, pointing to an acceleration of the auditing process. Seven NRAs have now audited data for 2009 rather than for 2008 and one NRA has up to date for 2010.

[23] Percentages are calculated on countries with no missing data on this topic.
[24] The comparison takes into account only those countries with no missing data in 2010 nor in 2011.

Table 3 – Comparison between 2010 and 2011 data

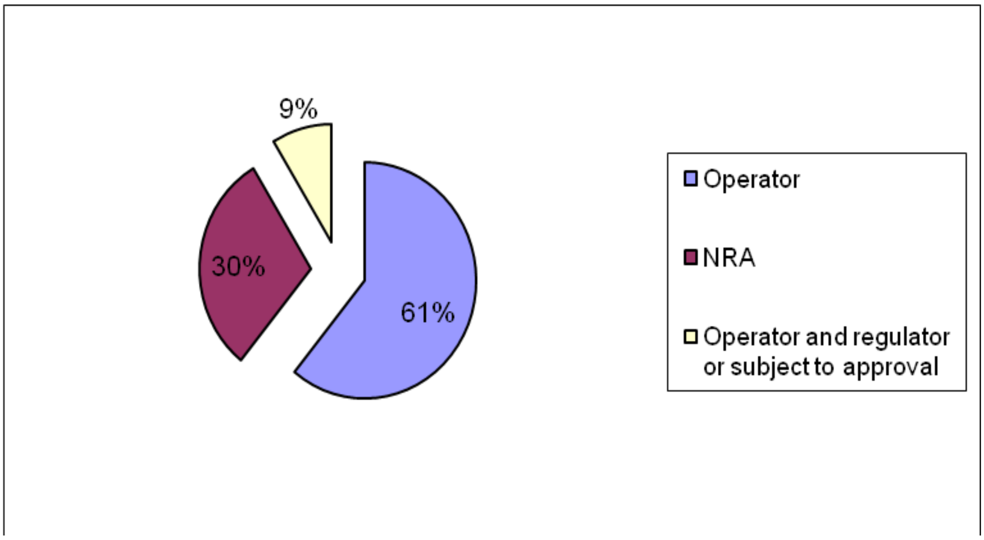
	Last audited year in 2011					
Last audited year in 2010	2005	2006	2008	2009	2010	Total
2005	1	1				2
2007			2	1		3
2008			1	7	1	9
2009				2	1	3
Total	1	1	3	10	2	17

Source: BEREC RA database 2011
Number of countries: 17

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 17 per cent NRAs declared to carry out the auditing process internally.

The choice of the auditor firm varies from country to country (Figure 26). In 2011, in 61 per cent of the cases it is up to the operator to choose an auditor, in 30 per cent of the cases the decision is up to the NRA. In around 10 per cent of all cases the auditor 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 2011
Number of countries: 23

As far as confidentiality of accounting data is concerned, 38 per cent of the NRAs declared to have access to the incumbents' operative cost accounting system in use; 62 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

In order to identify factors which have an influence on NRA's regulation strategy and therefore their choice of price control method, major structural data (listed in the following table) were identified and collected from NRAs:

1	Market situation
	% of cable subscriptions per total broadband lines (market share of cable subscriptions)
	% of fixed broadband lines per household or inhabitants (see comment) = fixed broadband penetration: copper, fibre etc.
	% of mobile broadband lines per household or inhabitants (see comment) = mobile broadband penetration
	% of SIM cards per total population (mobile penetration)
2	Population and surface area per country
	number of inhabitants
	number of inhabitants biggest city
	% of total population
	number of inhabitants three biggest cities
	% of total population
	country area in sqkm
	number of inhabitants per sqkm
3	Subscriber lines
	total number of active physical lines
	ITU fixed telephone lines (active) 2010
	ITU fixed telephone lines per 100 inhabitants 2010
4	MDF
	total number
5	Street cabinets
	total number
6	Local loop
	total average length in m (total copper pair m per active access)
	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 m per active access)
8	Civil engineering
	% of feeder cable: cable conduit / buried cable
	% of distribution cable: cable conduit / buried cable
	% feeder / distribution cable (proportion of copper pair m)
9	Duct / infrastructure sharing
	% of duct sharing with other services
	% of duct sharing per feeder / distribution cable
	average cost saving (estimate)

Fifteen countries provided information, some of it confidential. Of the fifteen countries, six have a number of inhabitants < 10.000.000 (except one country with a surface area < 100.000 sqkm), six have a number of inhabitants between 10.000.000 and 22.000.000 (surface area between 30.000 sqkm and 240.000 sqkm) and three have a number of inhabitants greater than 60.000.000 (surface area > 300.000 sqkm).

The market and competitive situation within the different countries shows considerable variation. The percentage of cable subscriptions varies between 0 per cent to 44 per cent. The percentage of fixed broadband lines per household ranges from 4,3 to 85, of mobile broadband lines from 2,2 to 65. The percentage of SIM cards per total population, which shows the mobile penetration, is greater than 100 per cent on average, ranging from a low of 66 per cent to a high of 155 per cent.

Depending on the size of the country, the total number of active physical subscriber lines ranges from 410.000 to more than 35.000.000 lines.

Not all countries[25] provided information on the subsequent information (number of countries who provided information in brackets): the total number of MDF ranges from about 600 to 13.000 (eleven countries), the number of street cabinets is between approximately 2.500 and 230.000 (seven countries). The total average length of the local loop is declared to be between about 500 and 3.000 metres (eight countries) and the average trench metre per active subscriber line between 15 and 37 metres (five countries). The total average length of the distribution cable is between 50 and 6.500 metres (six countries). Not enough countries have provided information on civil engineering and duct infrastructure sharing to compare figures. However, the considerable range of loop lengths has an impact on the average trench meter per subscriber which is a rough indicator for the civil engineering costs. These costs determine up to 70% of total costs indicating that the differences with regard to structural factors explain to a large part the cost differences as factual rather than caused by differences of costing methodologies.

[25] Thus the survey data cannot be considered as representative.

Appendix

A.1 Countries participating in the 2011 survey

1.	Austria
2.	Belgium
3.	Croatia
4.	Cyprus
5.	Czech Republic
6.	Denmark
7.	Estonia
8.	Finland
9.	France
10.	Germany
11.	Greece
12.	Hungary
13.	Ireland
14.	Italy
15.	Latvia
16.	Lithuania
17.	Malta
18.	The Netherlands
19.	Norway
20.	Poland
21.	Portugal
22.	The former Yugoslav Republic of Macedonia
23.	Romania
24.	Slovakia
25.	Slovenia
26.	Spain
27.	Sweden
28.	Switzerland
29.	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.
- 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.