

## Regulatory Accounting in Practice

*A Report prepared by the IRG Regulatory Accounting Working Group, April 2006*

### A. Executive Summary

This report provides an overview of the regulatory accounting systems across Europe. It is prepared annually and updates the previous version published in 2005.

The data collected for this report covers a period when many countries were transitioning to the new common regulatory framework for electronic communication networks and services. This meant that the data collected, now based on defined economic markets, is not easily comparable to data collected in previous years. Notwithstanding this, there are some important trends discernable from the data, namely:

- i)* the use of Current Cost Accounting (CCA) as a cost base increased in the mobile termination market (Fig. 3);
- ii)* there is further consolidation in the use of CCA as the preferred cost base for the fixed termination market (Fig. 2);
- iii)* Long Run Average Incremental Cost (LRIC/LRAIC) methodologies (based on CCA) are being used more extensively in the mobile termination market (Fig. 6); and
- iv)* the use of Fully Distributed Cost (FDC) and LRIC/LRAIC as costing methodologies continue to dominate the fixed terminating market (Fig. 5).

Overall, and given the transition in the regulatory framework, there would appear to be clear and continued indicators that the trend to more consistent and harmonised approaches to regulatory accounting has been maintained.

The information given in this report is based on those market analyses already completed or under consultation in 2006 and therefore also includes measures which are currently proposed but subject to the completion of the consultation process.

## **B. Introduction**

### *B.1 Background*

In September 2003 the IRG Regulatory Accounting Working Group (IRG RA WG) started a data gathering process aimed at describing how regulatory accounting systems have been implemented in EC member states normally as part of cost-orientation or non-discrimination obligations or to assist price control decisions.

The first results of this process were summarised in the report on Regulatory Accounting in Practice, prepared by the RA WG in April 2005. At the time the majority of IRG countries had not yet finished the market reviews imposed by the new regulatory framework. As a result data collection referred to the old framework, and consequently communication services were divided into three categories: “Fixed”, “Mobile” and “Other”. The 2005 report showed that accounting methodologies used across Europe were not yet harmonised or homogeneous. Each member state was using a different mix of accounting methodologies to comply with their own national situations. While Current Cost Accounting (CCA) and Long Run Incremental Cost (LRIC) methodologies were by far the preferred methods for imposing cost orientation when regulating fixed networks, Historical Cost and Fully Allocated Cost methodologies (also referred to as Fully Distributed Cost) were primarily used for mobile networks regulation.

This report is an updated version of the 2005 report aimed at monitoring whether the level of harmonisation in regulatory accounting systems across Europe has improved during the last year. It should be noted that during 2005 and the first months of 2006 several countries have completed the market reviews imposed by the new regulatory framework<sup>1</sup>. Therefore, it is now possible to start evaluating how different member states have implemented the obligations provided for by articles 9 - 13 of the Access Directive (for wholesale markets), by articles 17-19 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.

---

<sup>1</sup> A updated illustration of market analyses process and results across Europe can be found in Annexes A and B of the ERG and IRG response to the Call for Input by the Commission on the forthcoming review of the EU Regulatory Framework for Electronic Communications and Services, including the review of the Recommendation on relevant markets, published on February 23rd on the ERG website at the following address: [http://erg.eu.int/whatsnew/index\\_en.htm](http://erg.eu.int/whatsnew/index_en.htm).

It has been observed that the positions of individual countries have changed during this period as a consequence of the implementation of the new regulatory framework. Given this, for all 18 markets identified by the EU Recommendation as susceptible to ex ante regulation, the information given in this report refer to those markets for which the market analyses is either concluded or under consultation. The report also reflects measures which are planned to be implemented in 2006, although final decisions in some cases are subject to outstanding consultations.

### *B.2 The data collection process*

National Regulatory Authorities (NRA's) can use a variety of objective and appropriate regulatory accounting methodologies depending on their market analysis.<sup>2</sup> Therefore, in order to come up with a general view of accounting systems across Europe, the RA WG selected a broader range of data. This was not limited to a simple comparison between the cost-base (historical cost versus current cost) and the costing methodology (fully distributed cost or long run average incremental cost) chosen by different NRAs, so as to provide some additional insight. To this end, data collection has been extended this year to include, for each of the 18 markets identified by the European Commission Recommendation as susceptible to 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 (Historical Cost Accounting)*
  - *CCA (Current Cost Accounting)*
  - *FL- HCA (Forward Looking - Historical Cost Accounting)*

---

<sup>2</sup> For an exhaustive explanation of how to implement a regulatory accounting system see the ERG Common Position (05) 29.

- *FL-CCA (Forward Looking - Current Cost Accounting)*<sup>3</sup>
- *Combinations*
- *Other*
- For the Accounting System
  - *FDC (Fully Distributed Costs)*
  - *LRIC (Long Run Incremental costs)*
  - *LRAIC (Long Run Average Incremental costs)*
  - *SAC (Stand Alone Costs.)*
  - *EDC (Embedded Direct Costs)*
  - *Combination*
  - *Other*
  - *FL-LRIC*
  - *FL-LRAIC*
- For the Price control method:
  - *Price Cap*
  - *Retail Minus*
  - *Cost orientation/Cost accounting*<sup>4</sup>
  - *Benchmarking*
  - *Other*

The data request for the information used to calculate WACC included all the parameters used for its calculation such as, *inter alia*, the cost of equity, level of taxation, risk free rate, risk premium in addition to the final WACC value.

In addition to the above mentioned data, some countries provided further information regarding the approach used to develop a LRIC/LRAIC model (Top-Down, Bottom-Up, Hybrid or combination).

The data update for this report was finalised in April 2006 and 28 NRAs delivered information regarding the status of regulatory accounting in their country. The main results are summarised in Table 1 below. This shows that, for each of the 18 markets of the EC Recommendation, the number of countries in which some kind of price control and/or accounting obligation have been introduced so far, the most common “Cost Base”, “Accounting Methodology” and “Price Control Method”.

For retail markets, the data shows that the most commonly used cost base in retail markets 1 (fixed access residential), 2 (fixed access non-residential) and 6 (international calls non residential) remains HCA, while in markets 3 to 5, CCA is the most common cost base. FDC

---

<sup>3</sup> FL-HCA, as a cost base, is derived from HCA accounts and represents a forecast of historical costs, given certain hypotheses on future volumes and costs trend. They are typically used in a context of future tariff approval for services valued at HCA.

<sup>4</sup> Although various price control methods, for example benchmarking, may in practice result in cost oriented prices, a category “cost orientation” as a price control method has been created to indicate price regulation based on regulatory accounting data.

is the most common attribution methodology used in retail markets. The same result is observed for the broadcasting market.

**Table 1 Summary of results in the 18 markets**

Market	Countries with some kind of price control and/or accounting obligation so far	Most common Cost Base of these countries	Most common Accounting Methodology of these countries	Most common Price Control Method of these countries	Summary
Market 1 Fixed Call Access Residential	16	44% HCA	75% FDC	38% Cost Orientation	Beside Cost Orientation, Price Cap is widely accepted. A few countries don't have any regulation on this market or only regulation on Wholesale Line Rental.
Market 2 Fixed Call Access Non-Residential	15	50% HCA	73% FDC	40% Cost Orientation	Beside Cost Orientation, Price Cap is widely accepted. A few countries don't have any regulation on this market or only regulation on Wholesale Line Rental.
Market 3 National fixed services residential	12	50% CCA	83% FDC	50% Cost Orientation	Beside Cost Orientation, Price Cap is widely accepted. A few countries don't have any regulation on this market.
Market 4 International fixed Services Residential	9	44% CCA	56% FDC	44% Others	Beside Cost Orientation, Price Cap and Other Methods are most common. More countries than in Mkt 1-3 don't have any regulation on this market.
Market 5 National fixed Services Non-Residential	10	50% CCA	80% FDC	60% Cost Orientation	Beside Cost Orientation, Price Cap is widely accepted. A few countries don't have any regulation on this market.
Market 6 International fixed Services Non-Residential	6	50% HCA	67% FDC	67% Cost Orientation	This market is the most competitive, in many countries there is no regulation in place due to effective competition
<b>Market 7 Leased Lines</b>	<b>14</b>	<b>50% HCA</b>	<b>57% FDC</b>	<b>79% Cost Orientation</b>	<b>see following text</b>
Market 8 Fixed Call Origination Wholesale	18	78% CCA	44% FDC 44% LRIC	78% Cost Orientation	
<b>Market 9 Fixed Call Termination Wholesale</b>	<b>19</b>	<b>79% CCA</b>	<b>47% LRIC/LRAIC</b>	<b>70% Cost Orientation</b>	<b>see following text</b>
Market 10 Fixed Transit Services Wholesale	13	84% CCA	46% LRIC/LRAIC	54% Cost Orientation	Price Cap is also quite common
Market 11 Unbundled Access Wholesale	20	50% CCA	45% FDC	60% Cost Orientation	In most countries regulation in place
Market 12 Broadband Access Wholesale	12	50% HCA	50% FDC	50% Cost Orientation	Retail Minus also quite common
Market 13 Terminating Segments Wholesale	13	38% HCA	38% FDC	54% Cost Orientation	
Market 14 Trunk Segments Wholesale	8	63% HCA	50% FDC	50% Cost Orientation	No SMP in some countries
Market 15 Mobile Access and Origination Wholesale	4				in most countries no regulation due to competition
<b>Market 16 Mobile Call Termination Wholesale</b>	<b>13</b>	<b>61% CCA</b>	<b>62% LRIC/LRAIC</b>	<b>55% Cost Orientation</b>	<b>see following text</b>
Market 17 International Roaming					not regulated or Market Analyses not finished
Market 18 Broadcast	6		83% FDC	67% Others	Cost Bases quite different, but FDC most used accounting method

In order to simplify the presentation of this data and also to respect confidentiality, not all data collected can be shown and commented on in the following paragraphs. Therefore, two of the markets listed in the Commission Recommendation, market 9 and market 16, have been chosen as typical examples to compare the cost base and the allocation methodology used for fixed and mobile interconnection in the years 2005 and 2006. These are markets more prone to regulatory accounting remedies and, in most countries, the market analyses have been completed and remedies implemented.<sup>5</sup> Moreover, an analysis of the cost base and the allocation methodologies used in market 7 (leased lines retail markets) has been carried out. Finally, a commentary on WACC data is presented reflecting the importance of this topic to NRA's, notified operators and other stakeholders..

---

<sup>5</sup> As not all countries delivered data on all markets the number of total answers differs from the number of answers for single markets.

## C. Outline of the Results

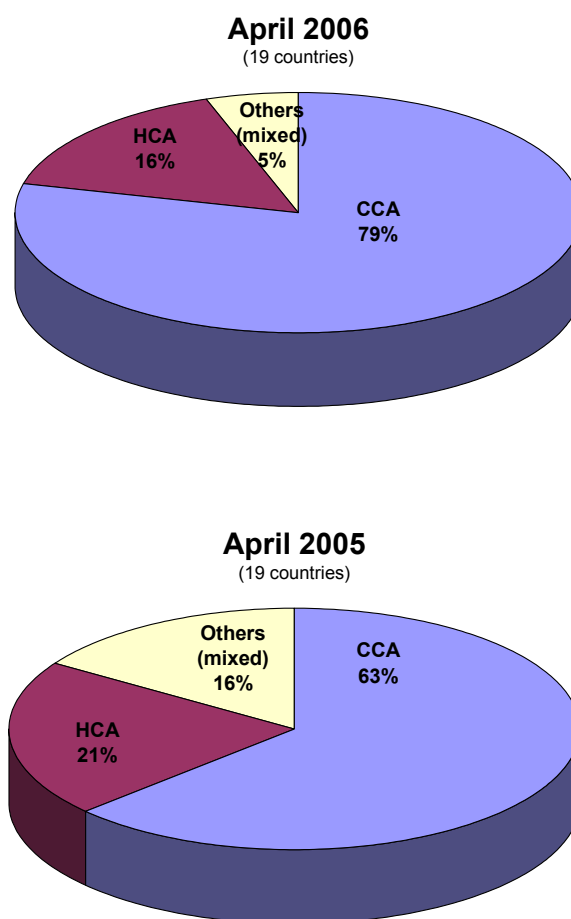
The following figures include data for markets where market reviews are either complete or are under public consultation. In addition, to assist comparability between years, data has only been included where the information has been provided for both years.

### C.1. Cost Base

Figure 2 below shows the percentage of countries adopting CCA, HCA or other mixed accounting methodologies to set fixed interconnection terminating charges in 2005 and 2006.

---

**Fig. 2 Cost Base Fixed Call Termination (Market 9)**



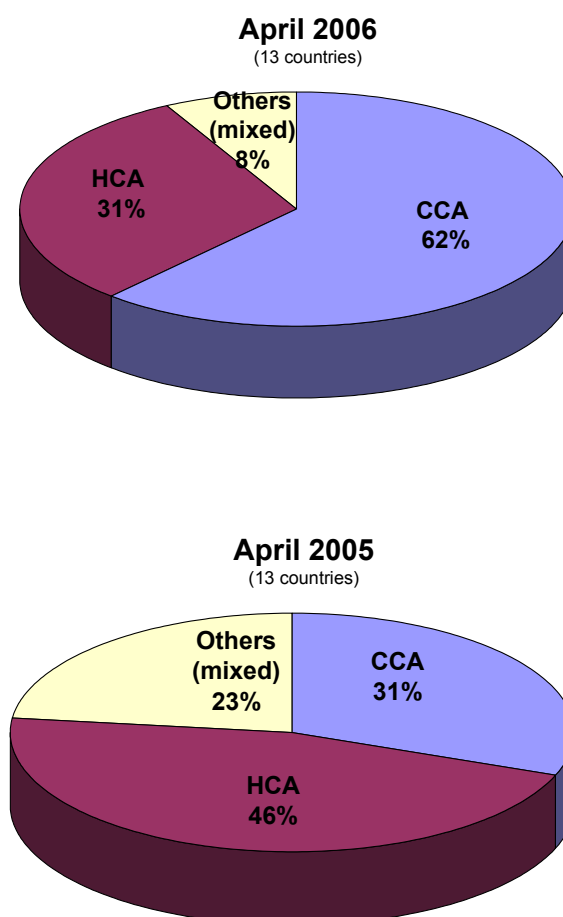
---

Source: IRG WG-RA (05)

It can be observed that in 2006 the most common cost base for fixed networks is CCA (79% compared to 63% in 2005), followed by HCA (16% compared to 21% in 2005) and other mixed methodologies (5% compared to 16% in 2005). In fixed networks, HCA had already been replaced with CCA by the majority of member states in 2005. The 2006 data confirms this trend, showing a further increase in the percentage of countries using CCA and a decrease in the percentage of countries using mixed methodologies.

The results for setting mobile interconnection terminating charges are reported in Figure 3, showing the percentage of countries adopting CCA, HCA or other mixed accounting methodologies in 2005 and 2006.

**Fig.3 Cost Base Mobile Call Termination (Market 16)**



Source: IRG WG-RA

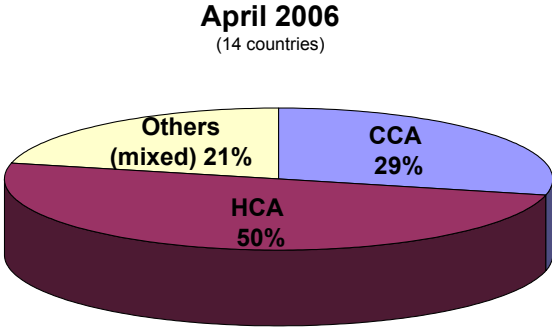


The graphs illustrate that in 2006 the most commonly used cost base for mobile networks is CCA (61% compared to 31% in 2005), followed by HCA (31% compared to 46% in 2005) and other mixed methodologies (8% compared to 23% in 2005). The increase in the use of CCA as the cost base for mobile call termination between the two years is significant.

The retail leased line market exhibits similar results to those observed for retail markets in Table 1. A comparison with last year is not possible, however, the data collected in 2006 shows that the most common cost base is HCA (Figure 4).

---

**Fig. 4 Cost Base Leased Lines (Market 7)**

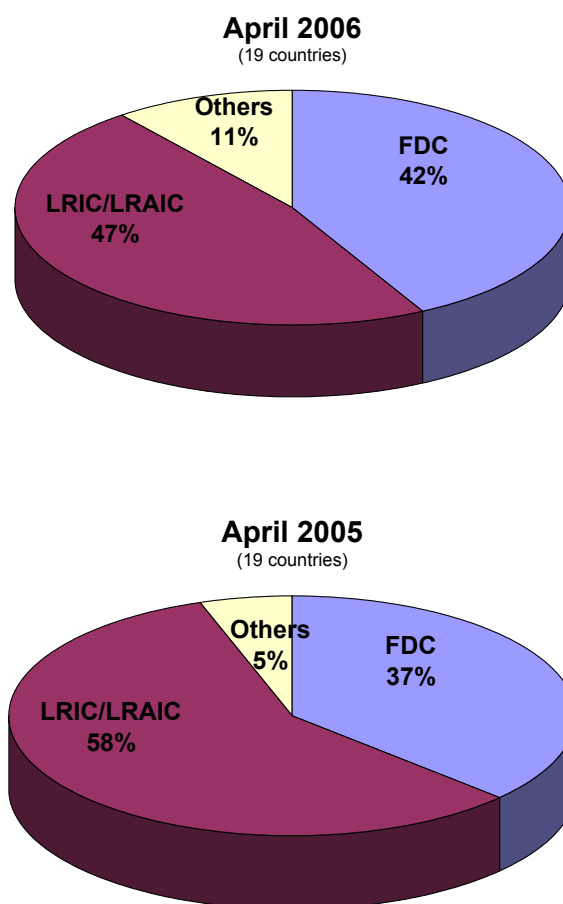


### C.2 Allocation Methodologies

Figure 5 shows the percentages of countries using LRIC, FDC or other mixed methodologies as the costing methodology for interconnection services in the fixed network for 2005 and 2006.

---

**Fig.5 Allocation Methodology Fixed Call Termination (Market 9)**



Source: IRG WG-RA

---

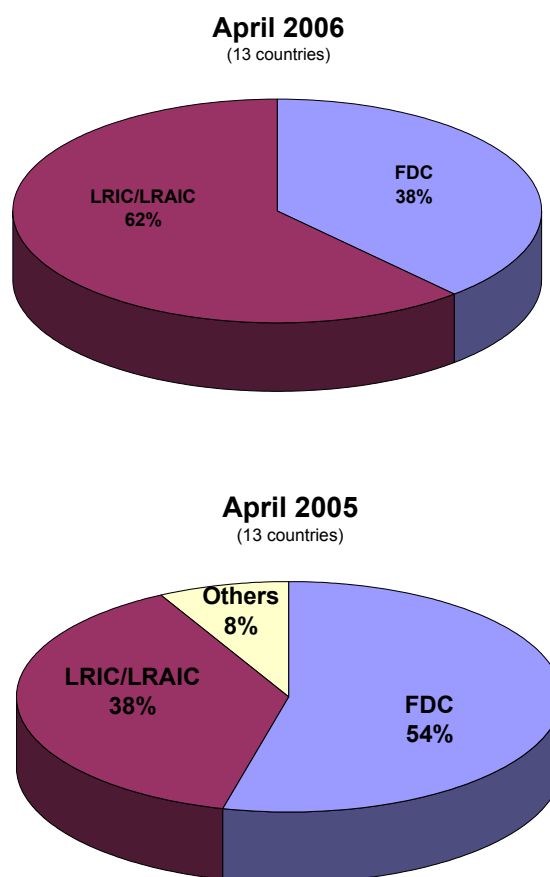
The graphs show that LRIC is the prevailing allocation methodology (47% compared to 58% in 2005), closely followed by FDC (42% compared to 37% in 2005) and by other methodologies (11% compared to 5% in 2005). However, whereas the percentage of countries using LRIC was expected to increase, the figure shows that in fact it decreased in 2006 compared to 2005. This can be explained by the fact that some countries that had adopted

LRIC in 2005 decided to move to mixed methodologies after completing their market analyses. As a consequence, the percentage of countries using FDC or other mixed methodologies has increased.

Figure 6 shows the percentages of countries using LRIC, FDC or other mixed methodologies as the costing methodology for call termination in mobile networks for 2005 and 2006.

---

**Fig. 6 Allocation Mobile Call Termination (Market 16)**



Source: IRG WG-RA (05)-08 Data Summary

---

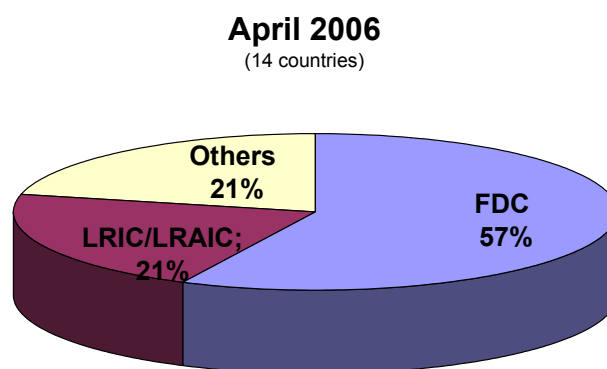
In the mobile sector, market 16 (mobile call termination), the most popular allocation methodology is LRIC for 2006 (62%, an increase from 38% in 2005), followed by FDC (38%, a decrease from 54% in 2005). These results are consistent with the results of the choice of cost base where countries adopting LRIC as the preferred allocation methodology

(or its variation LRAIC) replaced HCA with CCA because normally LRIC is populated with CCA data.

2005 data for the leased line market is not available. Figure 7 below therefore shows the percentages of countries adopting LRIC, FDC or other mixed allocation methodologies for 2006 only.

---

**Fig. 7 Allocation Leased Lines (Market 7)**



This graph shows that the most common allocation methodology in the leased line retail market is FDC (57%) while the percentage of countries using LRIC or other mixed methodologies is the same (21%).

### *C.3. Price control method*

A comparison of price control methods adopted in fixed and mobile markets (Markets 9 and 16) was carried out as part of this annual review.

The results show that in the fixed markets the majority of countries adopted “cost orientation” as a price control method, followed by “price cap” and other mixed methodologies.

This is consistent with the result for market 16 where the majority of countries adopted “cost orientation”, followed by "benchmarks" and “price cap”.

### *C.4. The weighted average cost of capital*

The parameters used for the WACC calculation have been collected for internal use only as some NRA's consider this level of detail confidential. Individual NRA's may however publish this information as part of their own consultation processes.

As far as the final WACC value is concerned:

- the data shows that the value of WACC in the majority of the countries is lower compared to 2005. Since the methodology used to calculate the WACC did not change, this result is mainly attributable to the decrease in interest rates between the first WACC calculation and its review under the market analyses;
- all countries have calculated a different WACC value for the fixed network and for the mobile network. The only exception to this is Ofcom in the UK which calculated a divisional WACC for the access network, based on its assessment that this part of the network bears a lower level of risk compared with the rest of BT's network;
- generally speaking, in the majority of countries the value of WACC for the fixed network is lower than that for the mobile network;
- the data shows that the WACC value, both for fixed and mobile networks, is on average higher in new accession countries compared with the other countries.

END OF REPORT.