Developments in European Regulatory Reporting.

A Report for BT

1 May 2012

Private and Confidential

This report has been prepared on the basis of the limitations set out in the engagement letter and the matters noted in the Important Notice From Deloitte on page 1.

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1 Introduction

BT commissioned Deloitte to examine the current state of regulation in a number of European countries, and consider how this compares to regulation in the UK.

In considering this question, Deloitte examined the regulatory regimes in six countries (hereafter, "the Sample"):

- France,
- Germany,
- Ireland,
- Italy,
- Spain, and
- Sweden.

This report summarises the findings from Deloitte's study.

- Chapter 2 outlines the reporting framework at the EU and national level for the Sample; and
- Chapter 3 details how reporting is conducted to meet these requirements.

2 Framework for Regulatory Reporting

2.1 European recommendations

The framework for regulatory reporting is set by the European Commission (EC) but is enshrined into legislation/regulation at the national level. This chapter briefly summarises this structure.

The EC's recommendations for accounting separation and cost accounting systems were articulated in the "Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications" (document 2005/698/EC). These recommendations were further elaborated in a common position of the European Regulators Group (ERG), published in 2005.

A central tenet of the recommendations was that a top-down cost allocation model using fully-allocated costs (FAC) or long-run incremental costs (LRIC) is preferred, and that Current Cost Accounting (CCA) techniques are preferred for calculating asset values[1]. This was consistent with regulations that had been in place in the UK for a number of years beforehand, but for a number of countries this meant a large change away from Historic Cost Accounting (HCA) valuation of assets.

The key recommendations outlined in the EC document are:

- That regulators oblige incumbents to report disaggregated operating costs, capital employed, and revenues "to the level required to be consistent with the principles of proportionality, transparency and regulatory objectives mandated by national or Community law";
- That the allocation of costs, capital employed, and revenue should follow the principle of causality (such as through activity-based costing);
- That the cost accounting system should be able to distinguish between direct and indirect costs;
- That regulators set clear deadlines and base years to be used in implementing CCA methodology;
- That incumbents provide a profit and loss statement and statement of capital employed for each regulated market;
- That transfer charges or purchases between markets and services need to be identified in order to demonstrate compliance with non-discrimination principles;
- That regulators require a reconciliation of the regulatory and statutory accounts, and that these statements should be audited; and

[1] Definitions of each of these cost standards, along with others that have been used in regulation in Europe, can be found in Appendix A.

- That accounting information should be made available to interested parties at a sufficient level of detail.

The ERG advised that while both FAC and LRIC are acceptable cost accounting methodologies, in the case of vertically-integrated incumbents, it is suggested that LRIC (or LRIC plus appropriate markup) should be provided at the service level for regulated markets in order to assure that cross-subsidisation does not occur.

2.2 National requirements

In the Sample, governments generally adopt laws mandating the national regulatory authority to implement cost accounting regulation. The NRA then issues regulations that comply with the national laws. The most recent relevant regulatory documents for the Sample and the years of adoption are summarised in Table 1.

Table 1: Current legal framework for cost accounting requirements

	Legal Framework
EU Recommendations	“Commission Recommendation of 19 September 2005 on accounting separation and cost accounting systems under the regulatory framework for electronic communications” (document 2005/698/EC)
France	"Décision n°06-1007 de l'Autorité de régula tion des communications électroniques et des postes en date du 7 décembre 2006 portant sur les obligations de comptabilisation des couts et de séparation comptable imposées à France Télécom"
Germany	Telecommunications Act and Telecommunications Rates Regulation Ordinance (1996)
Ireland	“Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of eircom Limited” (ComReg Decision No. D08/10 Document No: 10/67) (2010)
Italy	“Resolution no. 289/03/CONS: Price cap regulation and control for the voice telephony services offered by Telecom Italia” (1994) and Framework law number 318 (1997)
Spain	“Los Principos, Criterios y Condiciones Para el Desarrollo del Sistema de Contabilidad de Costes” (1999), and “Resolución Sobre la Aprobación del Sistema de Contabilidad de Costes Incrementales a Largo Plazo de Telefónica de España, S.A.U. (MTZ 2011/1476)” (2011)
Sweden	There is currently no requirement for TeliaSonera to publish separated accounts.
UK	Communications Act 2003, with specific guidance in Ofcom (2004): "The regulatory financial reporting obligations on BT and Kingston".

Some countries’ accounting systems predate the EC’s recommendations on cost accounting, while other countries responded to the recommendations by reforming their cost accounting requirements. Ireland was the most recent to update its cost accounting requirements; the changes to the system were motivated by recent changes in other countries, the burden of assessing and understanding financial information under the old system, the completion of several market analyses, and the introduction of retail bundle offerings and new technologies.

Each country in the sample has taken a distinct approach to forming its regulatory reporting requirements. Section 2 of this report details the different regulatory reporting requirements, providing analysis of the level of detail required, the extent to which detailed information is publicly available, the use of different models, asset valuation methods, and the use of bottom-up and side models.

3 Regulatory reporting

Reporting requirements differ significantly in type of accounting models and methodologies used and the level of detail required, with each regulator offering different interpretations of the EU's requirement that costs and revenues should be disaggregated "to the level required to be consistent with the principles of proportionality, transparency and regulatory objectives".

Recent regulatory trends in Europe indicate movement toward reductions in reporting requirements; for instance, Ireland's recent changes to its regulatory regime are intended to make cost reporting and documentation more streamlined, reducing the burden of regulatory accounting over time. An exception to this trend is Spain, which has recently added LRIC reporting requirements; however, it remains to be seen whether the upcoming market review will lead to a decrease in reporting requirements.

Most countries do not have specific reporting requirements for unregulated markets. However, so that top-down accounts allocate costs correctly to regulated products, non-regulated products must be included in the model at a sufficient level of detail. In Sweden, PTS is currently reviewing accounting separation for wholesale and retail services in the fixed network, but this study may be too detailed for use due to legal confidentiality requirements. In France, the top-down models built by France Télécom include a detailed split of voice origination and termination products, but this level of detailed reporting is not required by the regulator.

3.1 Aims of regulation

The aim of regulation is to promote competition, or to ensure that where there is no competition, prices are not set at excessive levels. Across Europe, there is a slow trend from ex ante regulation towards ex post competition law, as sufficient competition grows in the market. However, there are a number of markets in which competition is either currently insufficient or not expected to grow, suggesting a role for regulation in the foreseeable future.

There are two key areas of regulation:

- Price regulation; and
- Regulation of access to network.

This report concerns price regulation only. However, when looking at technology neutrality, it is important to consider where infrastructure access can provide a suitable alternative to traditional wholesale products.

3.2 Use of different models

In the Sample, a top-down cost allocation model is used for most regulatory pricing, though some bottom-up reports are submitted to address specific regulatory needs. The sole exception to this is Sweden, which uses a hybrid model. The cost allocation methodologies used in the Sample are described in Table 2.

Table 2: Cost allocation methodologies

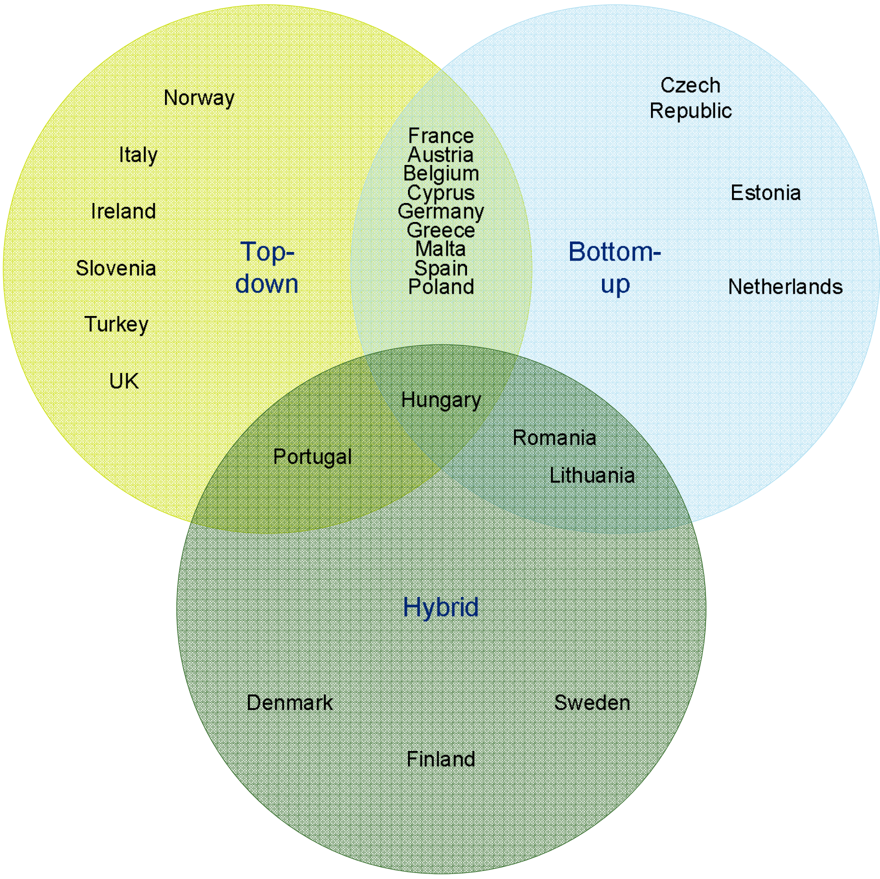
	Top-down	Bottom-up
EU Recommendations	Top-down cost allocation preferred; both FAC and LRIC acceptable. Regulators should oblige incumbents to report disaggregated operating costs, capital employed, and revenues following the principal of causality (using activity-based costing). In the case of vertically integrated incumbents, the ERG suggests that LRIC should be provided at the service level for regulated markets. For forward-looking approaches, a coordinated use of top-down and bottom-up methodologies is advised.	
France	Activity-Based Costing is used. "Synthetic reports" are derived from top-down system and include methodological descriptions for costs determined through bottom-up method. Synthetic reports include: transmission covering infrastructure costs, information systems linking support costs to specific regulatory products, conservation of numbers, and common costs.	"Specific reports" are built on a bottom-up basis and used for price control. They include: access report covering the local copper loop and related costs; voice and interconnection report; high speed report; and capacity services report covering access, collection, and transport.
Germany	BnetzA generally prefers LRIC-based regulation in the German fixed line market, using cost statements of dominant companies and the comparable markets to derive the LRIC. Operators must provide a sufficient breakdown to satisfy the requirements for the element-based costing that the regulator uses in order to generate benchmark LRIC.	Bottom-up cost modelling is also used.
Ireland	Separated accounts are required using a FAC approach.	None, although ComReg has built a bottom-up LRIC model to determine eircom's LLU prices, to which eircom contributes inputs.
Italy	Telecom Italia uses a FAC methodology.	The LRIC model is not included in the regulatory report but has already been adopted by Telecom Italia in order to define maximum prices for wholesale services.
Spain	Top-down reports using HCA and CCA are reported. LRIC reporting was introduced in 2011. In the new LRIC model, Telefónica calculates the total incremental cost, the incremental cost per unit, the distributed long run incremental cost, and the stand-alone cost. The first LRIC accounts were submitted in December 2011.	As of 2011, the regulator was developing a bottom-up LRIC model to calculate maximum prices; however, bottom-up costs are not part of the regulatory reporting requirements. Bottom-up reports do not cover leased lines.
Sweden	PTS builds a bottom-up model of the entire market, which is used to inform the cost for wholesale services. This includes access and transmission networks for fixed and mobile, and includes calculations for all network components including duct, dark fibre and interconnections. TeliaSonera builds a top-down model of its network, and submits certain outputs for consideration alongside the bottom-up model. PTS reconciles the two models and publishes a hybrid model which results in final costs. The top-down model is a detailed fully-allocated cost model which is able to identify costs as fixed or variable, and is able to identify the incremental costs of each services. As such, it is able to produce a top-down LRIC cost for services at differing levels of quality of service. TeliaSonera is required to provide considerable inputs to bottom-up models built by PTS. However, this obligation does not rest only on the incumbent; larger mobile operators and retail operators are also requested to provide inputs.	
UK	Top-down costs using HCA and CCA are reported. Top-down costs using LRIC and distributed stand-alone costs are reported for network component costs for activities within wholesale markets.	None.

The preference for top-down models used in the Sample reflects EU recommendations as well as general trends in Europe.

The Body of European Regulators for Electronic Communications (BEREC, the successor organisation to the ERG) conducts an annual review of regulatory accounting frameworks required by national regulators in order to assess the level of harmonisation in the EU. According to its 2011 report, FAC was the most commonly used accounting methodology across all regulated markets, though FAC has declined in usage since 2008. For the new Market 6, for example, twelve regulators used FAC, nine used LRIC+, and one used a combination.

In addition to this top-down accounting treatment, regulators are also able to build more theoretical bottom-up cost models to estimate regulated costs. Many regulators use multiple models, some specific to types of service. Figure 1 summarises the types of models used by EU countries.

Figure 1: General use of regulatory cost models



3.2.1 Bottom-up modelling

All of the Sample use some form of bottom-up models in regulation, for example to produce side-models for specific projects, provide data inputs for the regulators' own models. Bottom-up modelling can be justified where it is believed that there are considerable inefficiencies in the market or where technology is not being used correctly; the adjustments for efficiency generated by such models tend to result in unit costs significantly below the levels that would be reported using top down methodologies. However, these unit costs are unlikely to reflect the reality of how networks have been built or inherited, or specific geographic issues faced by the operator. Further, the use of bottom-up models represent a movement away from the principle of cost causality.

There are a series of the inherent advantages of top down-modelling: allowing for country-specific factors; ensuring that regulation targets are realistic; and providing incentives to innovate. As such, bottom-up models tend to be used only where top-down methods are felt to be insufficient.

BT has been shown to be consistently one of the most cost efficient companies in the world, through comparative efficiency studies carried out by Deloitte and NERA Economic Consulting (the latter on behalf of Ofcom). Ofcom has in the past recognised this, by relying on top-down cost methods and applying an inefficiency adjustment within a glide path.

3.2.2 Use of specific side-models

France and Italy require specific side-models for certain products. These are required to provide the regulators with details for specific products, reflecting different regulations that are imposed on newer or more stand-alone products. Yet such processes can be burdensome for both the operator and regulator.

Table 3: Side-models used for specific products

	Specific Models for Particular Products
EU Recommendations	None.
France	For specific products with price controls, France Télécom must produce specific price and cost comparisons annually and on demand. ARCEP will also define which additional accounting requirements are required by regulation. France Télécom is obliged to produce cost-volume studies upon request. These take the form of data request responses, and are used by ARCEP to verify bottom-up assumptions or to examine the telecommunications market as a whole.
Germany	None.
Ireland	The previous cost accounting process divided eircom's activities by businesses (Local Access Network, Core Network, Retail, and Other Business), but this information was not deemed by ComReg to be sufficiently detailed as most regulated wholesale prices are determined within the Core and Access businesses. This resulted in ComReg frequently requesting additional data from eircom on an ad hoc basis, burdening both parties.
Italy	Telecom Italia produces bottom up side models in order to define maximum prices for wholesale services.
Spain	None.
Sweden	For some specific regulated products, such as for leased lines, TeliaSonera is obliged to produce accounts separated between retail and wholesale costs, and separated for specific products, on a FDC basis. However, these models are not required to be sent to the regulator, rather the outputs and supporting documentation is provided, containing assumptions over allocations and revaluations.
UK	Ofcom does not formally require any specific side models from BT; however, a variety of side models are used in support of specific consultation requirements.

A holistic approach to FAC is easier for the regulator to analyse. For example, Ireland has recently moved away from a cost accounting regime that relied frequently on ad hoc reports for specific products, as this process was thought to be overly burdensome and to lead to inconsistent documentation.

Bottom-up models often replicate part of any top-down analysis that has already been carried out, therefore increasing the regulatory burden on incumbents. Moreover, consistent regulation between products offers a clear opportunity for saving for the regulator, since arguments over the precise method of regulation need be made only once.

Clear regulatory decisions are also beneficial for the industry, since a defined regulatory strategy and certainty over pricing decisions can enable new entrants to build a more solid business case. Where costs are calculated in multiple ways (for example, where BT produces audited accounts, and Ofcom produces its own calculations based on these), there can be confusion for new entrants as to the long-term cost of wholesale products (as the long-term cost will necessarily have to include any investment, for BT to be incentivised to carry out this new investment).

If regulated prices are derived from top-down models in the same way across products, there is a consistency of treatment between products and therefore regulatory certainty. This consistency also carries benefits in terms of encouraging economic efficiency, incurring costs where services are demanded rather than setting up incentives to reallocate costs between services.

3.2.3 HCA and CCA valuations

European countries also differ in their use of different asset-valuation methodologies, despite the EU's clear preference CCA compared to HCA. According to BEREC's 2011 report, there is a trend towards using CCA across all regulated markets. In the new Market 6 in 2011, of the countries sampled, fourteen regulators used CCA, and seven used HCA. This trend is also observed in the Sample, as shown in Table 4.

Table 4: Regulatory requirements for asset valuation standards

	HCA	CCA
EU Recommendations	CCA or LRIC preferred to HCA. Regulators should set clear deadlines and base years to be used in implementing CCA methodology.	
France	Required for all network elements.	CCA or MEA for some specified elements.
Germany	Information not available.	
Ireland	Previously, ComReg relied mostly on HCA accounting. Both HCA and CCA separated accounts are now required. The separated accounts include a reconciliation of HCA financial data to CCA financial data at market level, and ComReg now requires use of CCA asset valuation for all regulated markets except wholesale broadband access (that is, CCA is required for terminating segments of leased lines).	
Italy	Both HCA and CCA records are required.	
Spain	Telefónica reported only HCA-based costs for two years before adopting the CCA. In the new LRIC model, fixed assets are valued using the following methods: absolute rating, modern equivalence (for cable transmission pairs and transmission equipment), index numbers, and HCA.	
Sweden	Not required.	CCA is used in TeliaSonera's model.
UK	Both HCA and CCA records are required, but only CCA regulatory reports are published.	

Sweden is distinctive in that it is the only country in the Sample which is required to report only CCA-based asset valuations, while other countries provide for the calculation of costs using both HCA and CCA conventions. France and Ireland, which historically relied primarily on HCA accounting, have historically higher prices for leased lines. Few countries have a clear policy on the use of modern equivalent asset (MEA) valuation within CCA.

For regulatory certainty, and in order to simplify regulation, it appears appropriate that only one valuation standard is used. This will ensure that regulation does not cause a company to over-recover or under-recover.

3.3 Product aggregation

With products disaggregated in regulatory reports, regulators have a choice to either regulate each and every service at a specific level, or to regulate groups of services ensuring that the total return is consistent with the regulated level.

- Regulation of prices for each service ensures that there are no services which are charged above cost, and that cost causality is followed precisely for each product. However, this can lead to an inflexibility in pricing and a lack of incentive for the incumbent to move to more cost-efficient technologies, since it will have no way of encouraging retail operators to move to the new systems.

- Regulation of a 'basket' of services enables the operator to flex prices for specific services, and to allocate common costs in a way that encourages service growth. However, this may make some services more expensive.

Currently, BT is regulated on all products with specific prices set to all, as well as a regulated cap for the overall basket of services. This removes flexibility of pricing, which means that BT is unable to incentivise service operators to increase economies of scale. The basket of services is defined by Ofcom as an approximation of usage, but this does not reflect the exact mix in any one year; moreover, Ofcom does not change the mix in the basket to reflect growth in new services.

In order to rectify this, Ofcom could ensure that the mix of services in the basket is linked exactly to that sold by BT or set regulation at a more holistic level, ensuring only that BT is not over-recovering for the product group as a whole from the top-down modelling. This second solution would enable BT to vary its prices to a limited extent to encourage economic efficiency, while allowing Ofcom to continue to effectively regulate. This would also reduce the amount of information needed by Ofcom, as it would no longer need to validate each service's accounts. However, this level of detail would still need to be produced by BT in case of an ex post competition claim.

3.4 Level of detail

The level of granularity of required cost reporting varies significantly across the Sample, as does the total amount of reporting required across services, markets, and businesses.

A distinction must be made between the granularity of reported and published information. Highly detailed reporting is necessary within a top-down accounting model, because it ensures an accurate allocation of costs and is driven (in part) by the complexity of the operator's portfolio. However, fair regulation does not require the publication of cost data for products, as the purpose of cost accounting requirements is to verify that regulated products are being priced based on cost in order to encourage competition. Therefore, an appropriate level of regulation may require the derivation of detailed product costs but not the publication of these.

The requirements of BT's annual regulatory financial submissions are among the most detailed and onerous in Europe. The only country in the Sample which achieves a similar level of detail is Spain, which has a cost accounting system modelled on BT's. These details are summarised in Table 5.

Table 5: Level of detail of reported costs and published costs

	Level of Detail Required	Level of Detail of Published Information
EU Recommendations	Cost accounting system should be able to distinguish between direct and indirect costs. Costs and revenues should be disaggregated "to the level required to be consistent with the principles of proportionality, transparency and regulatory objectives."	Accounting information should be made available to interested parties at a sufficient level of detail but with due regard for commercial confidentiality.
France	ARCEP requires France Télécom to submit a list of network elements annually and produce a table of costs of network elements; this list is the most detailed level of reporting required. ARCEP may request more detailed cost data for specific network elements on a case-by-case basis. ARCEP provides a list of network elements, organised by technology family and by network portion. France Télécom must also report a table detailing the quantity of network elements used by each wholesale and retail offer.	France Télécom must report the criteria by which it allocates costs to support costs, commercial costs, and network costs, as well as methodological notes. These documents are published annually, though numerical values are not reported. France Télécom is required to define the assumptions and methods behind its accounting model and to explain the adjustments made to its statutory accounting in order to meet the regulatory reporting requirements. These methods and results are published annually and are audited. The list of network elements is published. Both the auditor's report and ARCEP's report are publicly available, using CCA-based financial accounts.
Germany	Cost statements comprise direct and common costs. Statements relating to common costs explain cost allocation to given services. Also to be included in the cost statements is an account of: the method used to determine the costs; the level of payroll costs, amortization, cost of capital (including interest costs), costs in relation to materials, depreciation; target and actual capacity utilisation in the documentation period, and the cost of the individual factors employed to provide the service, including the relevant prices, and in particular the elements of the public telecommunications network used for provision of the service and the cost of using these elements. In 2002, the regulator expressed concerns about shortcomings in DTAG's submissions; the breakdown should include the main categories under which costs are grouped and rules used for the allocation of costs.	In Germany, electricity and gas companies must have audited accounts available publicly; it would therefore be expected that DTAG, which is overseen by the same regulator, should be required to do likewise. Disclosure of accounting information concerning CCA and HCA for some core services has been known to be a particular problem in Germany because of the very strict corporate laws in relation to the release of any information that may be deemed to be confidential.

	Level of Detail Required	Level of Detail of Published Information
Ireland	ComReg requires market-based separated accounts for wholesale fixed call termination, wholesale call origination, wholesale transit services, wholesale broadband access, and wholesale terminating segments of leased lines. Revenue data is reported only at the market level, though also for material services and products if relevant. Eircom must submit Additional Financial Statements (AFS) and Additional Financial Information (AFI), both of which include information below market level for specific material services and product. ComReg requires details on the following costs: product development and management, marketing and sales, repair/maintenance, finance and billing, installation/provisioning, network support, general support, general management, accommodation, information technology, transport, personnel and administration, other operating expenses, depreciation, amortisation, and CCA adjustments.	Both HCA and CCA-based audited separated accounts are published. Primary accounting documents are published after ComReg has approved them, and Secondary accounting documents are confidential. ComReg can require that cost accounting at the service and product level (from the AFS and AFI) be published, but in general, these documents are confidential.
Italy	For each regulated wholesale market: Balance sheets, profit and loss tables, detailed costs of network assets and commercial processes, detailed costs of services for wholesale price list and offers, transfer prices, and volumes. Telecom Italia also must submit: a detailed report of network assets and commercial processes costs, a detailed report of final services costs through which Telecom Italia shows how each asset and process is charged on final services (routing factors or allocation factors), and a transfer prices report. For residential and non residential access (regulated retail services) Telecom Italia provides balance sheet and profit & loss statements. The retail leased lines services contained in Telecom Italia's cost accounting and accounting separation model are organised in clusters by technology and speed. This is the maximum detail of items used in the model.	Regulatory reports (balance sheets and profit and loss) are published by Telecom Italia on its website, but some figures are omitted due to confidentiality.
Spain	Highly disaggregated reports are produced; for instance, for fixed operators, costs are reported for more than 250 services, 200 network elements, and 150 equipment devices.	The CMT may provide a description of the approved cost accounting methodology and aggregated cost information each year upon request; aggregation protects the confidentiality of the data. The following reports are publicly available: brief account margins of interconnection services, and for the sub-groups access interconnection services, termination, and other services; and profitability of interconnection business segments. Telefónica must produce an internal cost accounting manual, explaining the accounting procedures; while this manual is not publicly available, it must specify how Telefónica will periodically publish its results publicly.

	Level of Detail Required	Level of Detail of Published Information
Sweden	PTS is currently undertaking a study on accounting separation for wholesale and retail services in the fixed network. However, it is possible that such a study may be deemed too detailed to be used, due to the Swedish Public Access to Information and Secrecy Act 2009. The exact nature of the top-down model is not disclosed. TeliaSonera is not required to publish the model, assumptions as to allocation methods or the input costs and revenues. Instead, PTS has specified the detail that must be included in the model, and requires TeliaSonera to provide supporting documentation and a defined set of outputs.	The exact nature of this model is not disclosed. TeliaSonera is not required to publish the model, assumptions over allocation keys, or the input costs and revenues.
UK	BT is required to carry out regulatory accounting for: fixed geographic call termination; fixed narrowband wholesale exchange line, call origination, conveyance and transit; fixed narrowband retail; retail leased lines, symmetric broadband, and wholesale trunk segments. The cost accounting system must identify the market, technical areas, and disaggregated activities separately. Network services must be separately identified and reported, and network activities must be disaggregated. Costs, revenues, assets, and liabilities must be attributable to an activity.	CCA-based financial accounts are published. BT is required to place a copy of the relevant information on its website and to send a copy of the relevant information to any person upon written request.

Level of detail of required reports

The countries with the most detailed reporting requirements are France, Italy, Spain and the UK. In France, reports at the level of network elements are required. The requirements of the Italian regulator vary between wholesale and retail markets, with Telecom Italia reporting leased lines clustered by technology and speed. Spain's reports are highly disaggregated; for fixed operators, costs for more than 250 services, 200 network elements, and 150 equipment devices are reported.

In Ireland, accounts are primarily market-based, a relatively low level of detail; however, information below market level is required for specific material services and products. This detailed information is confidential. Although the accounting regulations in Germany are more opaque, it appears that Deutsche Telekom is required to document the categories in which it groups costs.

Reporting requirements in the UK are amongst the most detailed compared to the Sample, with cost accounting required at the level of network elements.

Publication of regulatory accounting information

The EU recommends that regulatory accounts should be published annually after the end of the statutory accounting period, and that publication of the statement of compliance should take place within two months of the completion of the audit. Furthermore, the EU requires that regulators mandate publication of accounts at a level of detail that gives “due regard to commercial confidentiality”.

The extent to which regulatory reports are published and audited varies widely across Europe, with some countries exceeding the EU’s recommendations. In some of the Sample, accounts are published at a more aggregated level. For example, while the Spanish regulator requires Telefónica to submit highly detailed reports, the regulator publishes a statement of approval of the accounts with HCA and CCA-based costs aggregated at the service level (such as for access, or for interconnection as a whole) and confidential data removed. In contrast, BT publishes highly detailed CCA accounts on its website, with costs disaggregated below service level.

As BT’s regulatory accounts are more detailed and publicly visible than in most countries, there is the potential that this could lead to competitive disadvantages. The UK already has one of the most competitive telecommunication sectors in Europe, with many markets having been deregulated due to increased competition, and with increasing competition in infrastructure. Such competition works well when there is a level playing field; however, this may not be the case when other infrastructure providers are able to view details of BT’s costs and not vice versa.

Furthermore, while regulators require detailed cost accounting reports in order to verify that regulated products are being priced based on costs, fair regulation does not require the publication of cost data for products. In order to reduce the complexity of regulation in the UK, Ofcom could consider reducing the level of detail of published information.

3.5 Evolution of reporting requirements

A final consideration is the evolution of regulatory reporting as new technologies are rolled out across Europe. Particularly with the introduction of next-generation network (NGN) technology, network operators are increasingly finding that the majority of costs are fixed with the network rollout, with services provided becoming cheaper. However, it remains important that all costs of the network are recovered.

This is important as well in relation to the separate regulation of different products set out in Section 3.3. Separation of services at this level on NGN equipment can be spurious, since the majority of equipment used is identical.

One answer is for regulators to move to an aggregated service regulation approach, and rely on replicability tests, comparing the incumbent with other infrastructure providers, to ensure that unfair prices are not being set. This would extend replicability tests currently used in Italy: any retail package offered by any operator must be replicable by any other operator, using standard wholesale products. In such tests, where an incumbent is able to realise greater efficiency or economies of scale, these must be demonstrated through use of specific regulatory reports.

This approach would allow reporting to be reduced to regulated products aggregated at an overall service level, with greater detail reserved for further actions.

Appendix A Definitions of cost standards

Fully Allocated Cost (FAC) or **Fully Distributed Cost (FDC)** takes the total cost of the incumbent's operations and apportions this to the products and services produced. The total cost of services therefore equals the total costs on the incumbent's statutory accounts. Costs are categorised as direct variable and fixed costs (which are incurred through the provision of a specific service) or indirect (which are common across a number of or all products). Indirect costs are apportioned across services according to some cost-causal driver. For example, HR costs may be apportioned based on headcount directly involved in each service. However, in many cases the exact allocation keys are not defined.

Stand Alone Cost (SAC) measures the cost that would be incurred in providing a service if it were the only service being provided. This can be calculated using the same cost categorisation as in FAC, but rather than being allocated across services, all indirect costs are included in the total cost. This can be inefficient since it burdens customers with all overheads of a business, when these are used in the provision of other products. However, for new services or operators, it can give a realistic cost benchmark.

Distributed Stand Alone Cost (DSAC) calculates the SAC for a range of increments or services, and distributes cost among these. This therefore represents a midway point between FAC and SAC.

Embedded Direct Costs (EDC) include only the directly allocated costs of a service, not including any share of common costs. This reflects the incremental cost of providing the service on top of all other services.

Marginal Costs (MC) include only the directly allocated variable costs of a service. This allows a regulator to determine the costs involved in producing an extra unit of volume, with the cost base and output of all other products held constant. Marginal costs do not allow operators to cover their fixed or common costs, and there may need to be some mark-up added to account for these.

Long Run Incremental Cost (LRIC) or **Long Run Average Incremental Cost (LRAIC)** considers incremental costs in a long-term horizon, where some fixed costs may be considered variable. Unlike marginal cost, the LRIC methodology considers the impact not of changing output by a single unit, but rather by a significant increment. LRIC relies on cost-volume relationships (CVRs) for assets which show how capital and operating expenditure varies with the total volume.

Distributed LRIC (DLRIC) adds a contribution of selected common costs to the LRIC for certain services. As with DSAC, this is calculated by considering the fixed costs related to certain services only, and adding these to the strictly incremental LRIC.

LRIC+ is a cost standard which calculates LRIC and adds a certain mark-up to cover a fair share of common costs. This can be calculated by considering the LRIC for all services and sharing common costs on a pro rate basis, or by calculating more specific shares.

Appendix B Bibliography

Andersen (2002): "Study on the Implementation of Cost Accounting Methodologies and Accounting Separation by Telecommunication Operators with Significant Market Power"

ARCEP (2006a): "Décision n°06-0592 de l'Autorité d e régulation des communications électroniques et des postes en date du 26 septembre 2006 portant sur la définition des marches pertinents des services de capacité, la désignation d'operateurs exerçant une influence significative sur ces marches et les obligations imposées a ce titre"

ARCEP (2006b): "Décision n°06-1007 de l'Autorité d e régulation des communications électroniques et des postes en date du 7 décembre 2006 portant sur les obligations de comptabilisation des couts et de séparation comptable imposées à France Télécom"

ARCEP (2007): "Décision no 2007-0089 portant sur la levée de la régulation du marché des offres de gros d'accès large bande livrées au niveau national"

ARCEP (2009a): "Décision n°2009-0170 de l'Autorité de régulation des communications électroniques et des postes en date du 31 Mars 2009 publiant l'attestation de conformité du système de comptabilisation des couts et des comptes séparés 2007 établis par France Télécom dans le cadre de ses obligations réglementaires comptables"

ARCEP (2009b): "Obligations de comptabilisation des coûts et de séparation comptable de France Télécom: Synthèse du rapport de l'audit des comptes 2008 conduit par Mazars"

Arocena, P. (2004): "Privatisation Policy in Spain: Stuck Between Liberalisation and the Protection of Nationals' Interests", CESifo Working Paper Series No. 1187

BEREC (2010): "Annual Report"

BEREC (2011): "BEREC Report – Regulatory Accounting in Practice 2011"

CMT (1999): "Los Principos, Criterios y Condiciones Para el Desarrollo del Sistema de Contabilidad de Costes"

CMT (2011a): "Estadísticas del Sector: II Trimestre – 2011"

CMT(2011b): "Resolución Sobre la Aprobación del Sistema de Contabilidad de Costes Incrementales a Largo Plazo de Telefónica de España, S.A.U. (MTZ 2011/1476)."

CMT (2011c): "Resolución Sobre la Verificación de los Resultados de la Contabilidad de Costes de Telefónica de España, S.A.U. Referidos al Ejercicio 2009 (AEM 2011/888)"

ComReg (2007): "Market Analysis - Leased Lines Markets" ComReg Document No: 07/77

ComReg (2008): "Market Analysis - Leased Lines Markets: Response to Consultation and Consultation on Draft Decision" ComReg Document No. 08/63

ComReg (2008): “Market Analysis - Leased Line Market Review: Response to Consultation on draft Decision Instrument Final Decision Notice and Decision Instrument” ComReg Decision No: D06/08 Document No: 08/103

ComReg (2009): “Quarterly Key Data Report – Data as of Q2 2009” ComReg Document No. 09/71

ComReg (2010): “Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of eircom Limited” ComReg Decision No. D08/10 Document No: 10/67

ComReg (2011): “Quarterly Key Data Report – Data as of Q3 2011” ComReg Document No: 11/98

Comstat (2012): “Quarterly Report Data” Available from: http://www.comstat.ie/data/data.472.data.html

Deutsche Telekom (2012): “Annual Report 2011”

ECTA (2010): “Annexes to the ECTA Regulatory Scorecard” Available from: http://www.ectaportal.com/en/REPORTS/Regulatory-Scorecards/Regulatory-Scorecard-2009/

European Commission (1999): “Fifth Report on the Implementation of the Telecommunications Regulatory Package”

European Commission (2002): “Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities (Access Directive)”

European Commission (2003): “Commission Recommendation on Relevant Product and Service Markets within the Electronic Communications Sector Susceptible to Ex Ante Regulation in Accordance with Directive 2002/21/EC of the European Parliament and of the Council on a Common Regulatory Framework for Electronic Communications Networks and Services”

European Commission (2007): “Commission Recommendation on Relevant Product and Service Markets Within the Electronic Communications Sector Susceptible to Ex Ante Regulation in Accordance with Directive 2002/21/EC of the European Parliament and of the Council on a Common Regulatory Framework for Electronic Communications Networks and Services”

European Commission (2007): “Commission Staff Working Document: Explanatory Note – Accompanying document to the Commission Recommendation on Relevant Product and Service Markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, 2nd ed.”

European Commission (2007): “EU Telecoms Reforms, Factsheet No. 9”

European Commission (2010a): “France: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in France”

European Commission (2010b): “Germany: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in Germany”

European Commission (2010c): “Ireland: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in Ireland”

European Commission (2010d): “Italy: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in Italy”

European Commission (2010e): “Progress Report on the Single European Electronic Communications Market (15th Report)”.

European Commission (2010f): “Spain: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in Spain”

European Commission (2010g): “Sweden: Digital Agenda Scoreboard 2011 – Report on Telecom Regulatory Developments in Sweden”

European Commission (2011a), “Commission Decision Concerning Case DE/2011/1277: Wholesale terminating segments of leased lines”

European Commission (2011b), "Report on telecom regulatory developments in France”, available from: http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/fr/index_en.htm

European Commission (2011c), "Report on telecom regulatory developments in Germany”, available from: http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/de/index_en.htm

European Commission (2011d): "Report on telecom regulatory developments in Italy”, available from: http://ec.europa.eu/information_society/digital-agenda/scoreboard/countries/it/index_en.htm

European Commission (2012): “Regulatory Framework for Electronic Communications in the EU Today” Available from: http://ec.europa.eu/information_society/policy/ecomm/eu-rules/index_en.htm

European Regulators Group (2005): “ERG Common Position: Guidelines for Implementing the Commission Recommendation C (2005) 3480 on Accounting Separation and Cost Accounting Systems Under the Regulatory Framework for Electronic Communications”

European Regulators Group (2007): "ERG Common Position on Best Practice in Remedies Imposed as a Consequence of a Position of Significant Market Power in the Relevant Markets for Wholesale Leased Lines", ERG (07) 54 final 080331

France Télécom (2011): “Annual Report 2010”

France Télécom (2010), "Description du système de comptabilisation des coûts de France Telecom”

Frontier Economics (2009): “Economics of Transmission Capacity Services”

Hultkrantz L (2002): “Telecommunications Liberalisation in Sweden: Is ‘Intermediate’ Regulation Viable?”, *Swedish Economic Policy Review 9*, pp 133-161

IDATE Consulting and Research (2011): “Broadband Coverage in Europe: Final Report – 2011 Survey”

International Telecommunication Union (2012): “ICT Regulation Toolkit” Available from: http://www.ictregulationtoolkit.org/

Internet World Statistics (2012): “Internet World Stats” Available from http://www.internetworldstats.com/

Jordana, J. (2002): *Governing Telecommunications and the New Information Society in Europe*, Edward Elgar Publishing

Kelly, H. and Treacy, C. (2010): “Telecoms and Media 2010: Ireland”

Mergent (2010a): “Country Profile: Ireland”

Mergent (2010b): “Country Profile: Spain”

Nilsson, H. (2005): “Assessment of Significant Market Power in Swedish Electronic Communications Market” Available from: http://www.twobirds.com/English/News/Articles/Pages/2005/Assessment_of_smp_in_Swedish_electronic_communications_market.aspx

ODTR (1999): “ODTR Significant Market Power in the Irish Telecommunications Sector”

ODTR (2000a), Consultation Paper on Service Levels Provided to Other Licensed Operators by Licensees with Significant Market Power, ODTR 00/78

OECD (2000b): “OECD Review of Regulatory Reform in Ireland: ODTR Submission on Telecommunications”

OECD (2001a): “Regulatory Reform in the Telecommunications Industry”

OECD (2001b): “Regulatory Reform in Telecommunications: OECD reviews of Regulatory Reform – Regulatory Reform in France”

OECD (2001c): “Regulatory Reform in Telecommunications: OECD reviews of Regulatory Reform – Regulatory Reform in Germany”

OECD (2001d): “Regulatory Reform in Telecommunications: OECD reviews of Regulatory Reform – Regulatory Reform in Ireland”

OECD (2001e): “Regulatory Reform in Telecommunications: OECD reviews of Regulatory Reform – Regulatory Reform in Italy”

OECD (2001f): “Regulatory Reform in Telecommunications: OECD reviews of Regulatory Reform – Regulatory Reform in Spain”

OECD (2012): “Interconnection in the Netherlands” Available from: http://www.oecd.org/dataoecd/5/34/2752795.pdf

Ofcom (2003): “Review of Fixed Geographic Call Termination Markets, Annex C: Cost-benefit Analysis of the Proposed Price Control Regulation on BT”

Paul Budde Communications (2011a): “Europe: Digital Economy and Digital Media Market, 7th ed.”

Paul Budde Communications (2011b), "Germany – Key Statistics, Telecom Market and Regulatory Overviews"

Paul Budde Communications (2011c): “Ireland – Mobile Market Insights, Statistics and Forecasts”

Paul Budde Communications (2011d), "Italy – Key Statistics, Telecom Market and Regulatory Overviews”

Paul Budde Communications (2011e): “Spain – Mobile Market Insights, Statistics and Forecasts”

Paul Budde Communications (2011f): “Ireland – Mobile Market Insights, Statistics and Forecasts”

Paul Budde Communication (2011g): "Sweden – Mobile Market Insights, Statistics and Forecasts"

Paul Budde Communications (2012): “France – Key Statistics, Telecom Market and Regulatory Overviews”

PricewaterhouseCoopers (2011), “Système de comptabilisation des couts et comptes séparés 2010 établis par France Télécom"

PTS (2011):”The Swedish Telecommunication Market 2010”

Telecom Italia (2011), “Annual Report 2010”

Telefónica (2011): Annual Report 2010”

Teligen Strategy Analytics (2010): “Report on Telecoms Price Developments from 1998 to 2010”

Vodafone (2012): “Annual Report 2011”