OECD Regulatory Compliance Cost Assessment Guidance



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Foreword

The costs of regulatory compliance form a significant element of the costs and benefits of regulatory change and should be included as part of a fully developed regulatory impact assessment. The guidance focuses on the analysis of substantive compliance costs and provides practical and specific guidance, suitable for use by officials responsible for estimating regulatory compliance costs. This document aims to assist governments in developing country-specific guidance, by tailoring and adapting the contents to best support individual policy requirements. This guidance was commissioned as a result of research and discussions on measuring and reducing compliance costs that were conducted on a two day workshop in Berlin, Germany in June 2012. This was the fourth in a series of expert meetings hosted by OECD countries that focuses on a substantive regulatory policy issue of concern to OECD countries. Publically available background reports are available on the website: *www.oecd.org/gov/regulatory-policy/berlinworkshop.htm*.

Following the workshop a project group was formed comprising delegates from Austria, Czech Republic, Germany, Mexico, the Netherlands, Norway, the United Kingdom and the European Commission. Members of the group provided advice and feedback on the development of the guidance, which involved a series of meetings, written reviews and discussions. The guidance builds on the OECD Expert Study on Measuring and Reducing Regulatory Costs, also developed with advice of the project group, and prepared by Rex Deighton-Smith which will be published as an OECD working paper in 2014. This study provides a detailed review of the comparable approaches adopted by various OECD countries in respect to methodological and institutional design of measuring the impact of regulation, considering what has worked well in countries.

The workshop and subsequent research are part of the programme on Measuring Regulatory Performance. The Programme on Measuring Regulatory Performance aims to help countries communicate progress in improving regulatory policy and to identify areas for reform. The Programme works with countries to assess and improve the performance of regulatory policies, programmes and tools and to demonstrate that

improvements to regulatory governance deliver actual benefits to business and citizens. The programme also supports countries' efforts to evaluate the implementation and impact of regulations to ensure they are efficient and effective. Further information on the programme can be obtained from *www.oecd.org/regreform/measuringperformance*.

This guidance has been developed by Christiane Arndt, Antonia Custance Baker and Daniel Trnka from the OECD Secretariat in co-operation with Rex Deighton-Smith, consultant and specialist on regulatory reforms, and under the supervision of Nick Malyshev, Head of the Regulatory Policy Division and Céline Kauffman, Deputy Head of the Regulatory Policy Division OECD. Jennifer Stein was responsible for the text layout and the editing.

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Introduction

Why is compliance cost assessment (CCA) important?

Governments across the OECD and beyond are increasingly concerned to control and reduce regulatory costs in order to create a more favourable business environment and thereby improve the conditions for inclusive growth. At the same time, demands for regulatory action to address important social and economic problems continue unabated. To address these issues simultaneously governments must work to systematically adopt better regulatory choices; that is, to ensure that the most cost-effective and efficient options are chosen in all areas of regulation.

A high-quality assessment of compliance costs can contribute substantially to the achievement of this outcome. A systematic approach to identifying and assessing compliance costs provides a greatly enhanced information base for decision-makers, ensuring that expected regulatory impacts are better understood. By helping to ensure that all regulatory costs are taken into account and reliably identifying major cost drivers, Compliance Cost Assessment (CCA) provides a strong basis for comparing policy options and designing improvements to initial regulatory proposals, thus ensuring that the regulations ultimately adopted are of higher quality.

Consulting on compliance cost estimates prior to final regulatory decision-making also provide a basis for better engagement with stakeholders, through subsequent open consultation processes. These processes can further improve the quality of final CCA – and of the resulting regulations – by enabling stakeholders to critique the analysis undertaken and providing a source of additional data and analytical input. In addition, publication enhances the legitimacy of regulation by engaging stakeholders more fully in the regulatory process.

Compliance cost assessment is a significant element of Regulatory Impact Analysis (RIA), which is the broader analysis of all of the benefits and costs of a proposed regulatory initiative (or of existing regulations). The 2012 *Recommendation of the OECD Council on Regulatory Quality and Governance* recommends that RIA be integrated into the early stages of the policy process in the formulation of new regulatory proposals and that *ex ante* assessments of regulatory costs, benefits and risks should be quantitative wherever possible. The conduct of high-quality, quantitative

and qualitative compliance cost assessment is instrumental to the implementation of this recommendation.

Purpose and scope of this guidance

This document provides practical and specific guidance, suitable for use by officials responsible for estimating regulatory compliance costs. However, compliance cost assessment is necessarily undertaken within the context of a range of country-specific policy requirements, whether set out in legislation or administrative documents. OECD Member country governments will therefore need to tailor and adapt the content of this guidance document to ensure consistency with their individual legislative and policy requirements. This guidance document can therefore be seen as a partial template for the development of country-specific guidance on compliance cost assessment as part of RIA.

Consistent with this, the content of this guidance embraces material of two types. The bulk of the guidance is presented in a format and in language which is considered suitable for adoption in country-specific guidance documents either verbatim or with limited changes. However, it also identifies certain areas in which there are not clear best practices and where Member countries must make specific choices as to the guidance to be provided. In these areas, this document addresses regulatory policy officials and government decision-makers and seeks to clarify the nature and consequences of the choices to be made.

This document constitutes the first detailed guidance on compliance cost assessment to have been produced by the OECD. The guidance provided can be used in:

- developing *ex ante* estimates of the costs associated with adopting new regulatory proposals; and
- developing *ex post* estimates of the costs currently being incurred in complying with existing regulation.

Thus, this guidance can be used both in the context of decision-making about the form of new regulation and in identifying options for reducing existing regulatory compliance costs.

The scope of this guidance is restricted to the analysis of *substantive compliance costs*. Thus, it does not address all forms of regulatory costs. The following chapter provides a taxonomy of regulatory costs and of the compliance costs which are the focus of this guidance.

Equally, this guidance does not address the assessment of regulatory benefits. The work of the OECD regulatory policy program includes

substantial guidance on the subject of regulatory impact analysis (RIA), which involves assessing both regulatory benefits and costs in a comparative context as a means of supporting better quality regulatory decision-making. The current document is intended to provide more specific and practical guidance to policy officials in respect of compliance cost assessment. However, it necessarily addresses only one aspect of RIA and the nature and purpose of regulatory compliance cost assessment should be considered within the broader context of RIA and of regulatory policy more generally.

This document is presented in two parts. The main report provides a complete introduction to compliance cost assessment. It is intended to be usable by generalist policy officers and to provide practical guidance to them and, as a result, does not assume that the reader has significant experience with, or expertise in, compliance cost assessment. It covers all of the key aspects of compliance cost assessment and provides a combination of conceptual information and technical guidance. Annex A, supplements the material set out in the main report by providing more detail in relation to several of the specific topics introduced in the main report, as well as addressing a small number of related topics. It is intended to be used by officials responsible for undertaking more detailed and complex assessments, typically relating to more complex regulation and/or with more significant impacts. In addition, the bibliography provides references to sources of more in-depth guidance on the assessment of both regulatory costs and benefits.

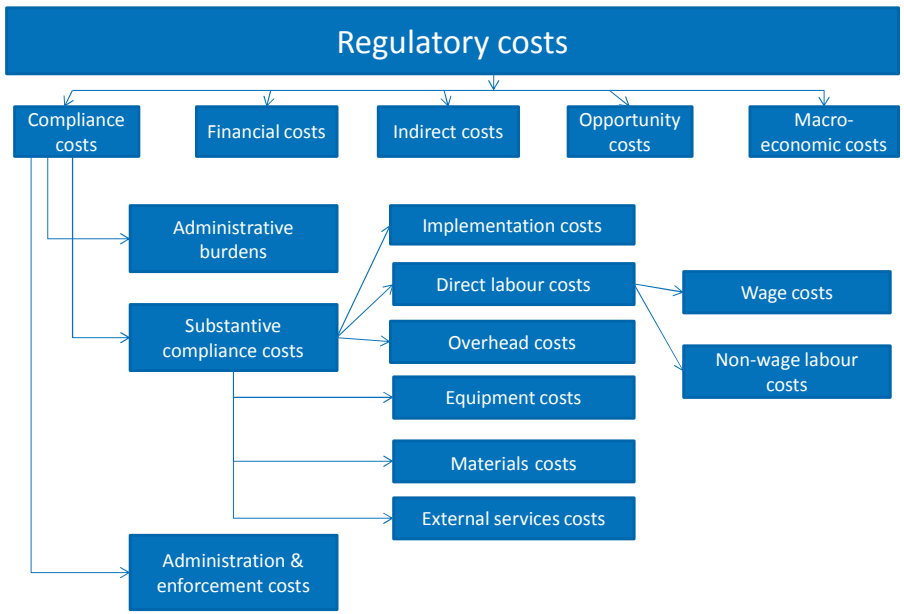
Chapter 1

A taxonomy of regulatory costs

Overview

The term "regulatory costs" as used by the OECD embraces all of the costs attributable to the adoption of a regulatory requirement, whether direct or indirect in nature and whether borne by business, consumers, government and its respective authorities (i.e. taxpayers) or other groups. Figure 1.1 sets out a taxonomy of regulatory costs. The costs included in each category are discussed below.

Figure 1.1. Taxonomy of regulatory costs



All of the above categories of regulatory costs are relevant to developing an understanding of the overall impact of regulation and all should be accounted for as far as possible in the context of benefit/cost analysis. However, as a practical matter, the quantification of these cost categories becomes increasingly challenging as the analysis moves beyond compliance costs. In particular, the second round effects of regulation (i.e. indirect costs and macro-economic costs) are subject to significant uncertainty and pose major analytical challenges. Recognising this, the focus of this paper is on compliance costs. Moreover, given that a widely agreed methodological approach and extensive guidance material are already available on the issue of administrative burdens, this paper does not discuss this subset of compliance costs. Rather, it focuses specifically on substantive compliance costs incurred by business or other regulatory target groups, together with the costs to government of regulatory administration and enforcement.

These costs will represent the majority of total regulatory costs in most circumstances and provision of soundly based estimates of regulatory compliance costs will substantially assist decision makers in refining and modifying regulatory proposals to minimise costs and, in the limiting case will help to identify areas where the cost of a regulatory proposal would be disproportionate and it should not proceed. Thus, compliance cost assessment carried out in accordance with the guidance provided in this document forms an important tool for improving regulatory quality, minimising and reducing overall regulatory costs.

The following provides working definitions of each of the categories of cost identified in Figure 1.1.

Compliance costs

Compliance costs are the costs that are incurred by businesses or other parties at whom regulation may be targeted in undertaking actions necessary to comply with the regulatory requirements, as well as the costs to government of regulatory administration and enforcement. Compliance costs can be further divided into administrative burdens, substantive compliance costs and administration and enforcement costs.

Administrative burdens

Administrative burdens can be defined as the costs of complying with information obligations stemming from government regulation. Information obligations can be defined as regulatory obligations to provide information and data to the public sector or third parties.

An information obligation does not necessarily mean that information has to be transferred to the public authority or private persons, but may include a duty to have information available for inspection or supply on request. A regulation may contain many information obligations.

Substantive compliance costs

These are the incremental costs to the target group of complying with a regulation, other than administrative costs. They include only the direct costs borne by those upon whom the regulation imposes compliance obligations. Substantive compliance costs include the following broad categories: implementation costs, direct labour costs, overheads, equipment costs, materials costs and the costs of external services. These are discussed in detail in Chapter 2, while Chapter 3 provides guidance on the estimation of the various cost categories.

Administration and enforcement costs

These are the costs incurred by government in administering and enforcing the regulatory requirements. They can be considered to fall into the category of compliance costs since they are directly related to the achievement of the underlying regulatory objective and are an unavoidable part of the cost of regulation. However, they are borne by government entities, rather than by the businesses or other groups that are the target of the regulatory requirements. Hence, they are distinct from the category of "substantive compliance costs" identified above.[1]

These costs include the costs of publicising the existence of the new regulations, developing and implementing new licensing or registration systems, assessing and approving applications and processing renewals. They will also include devising and implementing inspection and/or auditing systems and developing and implementing systems of regulatory sanctions to respond to non-compliance.

Other regulatory costs

The total cost of regulation includes both the compliance costs, discussed above, and the following costs that fall outside the definition of compliance costs. While this guide does not address the estimation of the costs, the following explains in general terms what each category comprises.

Financial costs

The financial cost of regulations is the cost of capital deployed in meeting regulatory compliance obligations. That is, where investments must

be undertaken (i.e. equipment purchased, etc.) in order to comply with regulations the cost to the firm includes both the purchase price of these items and the cost of financing the purchase – whether from debt or equity.[2] The concept of the industry "Weighted Average Cost of Capital" (WACC) is relevant where it is useful to determine financial costs with a high degree of precision. However, benchmark interest rates provide a simpler and generally adequate alternative.

Note: the term "financial costs" is sometimes used to describe regulatory fees paid by firms. However, these fees are adopted in order to recover the costs of government administration and enforcement of the regulations, with the goal of ensuring that product prices reflect the full costs of production, including those of regulation. Changes in the size of these regulatory fees have no impact on the overall cost of the regulations, affecting only the distribution of those costs. Thus, these regulatory fees cannot be considered to be costs in the economic sense. Rather, it is the costs incurred by government in undertaking its administration and enforcement roles that should be the primary focus.

Nonetheless, the distribution of regulatory costs is an important policy concern, so that compliance cost assessments should appropriately include reference to these regulatory fees. However, it should be made clear that these amounts represent partial transfers of the costs of regulatory administration and enforcement from government to industry, rather than economic costs per se. The sub-section on a*dministration and enforcement costs* in Chapter 3, discusses the need to avoid double counting when addressing regulatory fees.

Indirect costs

Also called "second round" costs, indirect costs are incidental to the main purpose of the regulations and often affect third parties. They are likely to arise as a result of behavioural changes prompted by the first round impacts of the regulations. Dynamic costs – i.e. costs caused by negative changes in market conditions over time – may be included in this category.

For example, if a new tax on factory emissions is adopted, the cost of production and therefore the price of emissions-intensive products will rise, relative to other products. This will lead to a degree of consumer substitution toward other products that are now relatively cheaper. The lower level of consumer surplus that results from substitution to the less-preferred products constitutes an indirect cost of the regulations.

Opportunity costs

Opportunity costs are the costs incurred due to the need to divert expenditures to regulatory compliance and away from preferred (i.e. more productive) uses. For example:

- a company may be unable to undertake a planned expansion to productive capacity because it is required to retrofit emissions control equipment to its existing facilities in order to comply with new regulatory standards;
- staff time spent on compliance activities at the expense of other productive activities.

Opportunity costs are closely related to the financial cost concept highlighted above. However, the opportunity cost is the difference between the return to the business (if any) from its regulatory expenditures and the best available alternative of those resources (i.e. that with the highest expected return). Thus, opportunity costs are determined by the business' return on capital, whereas financial costs are determined by its cost of capital. This implies that opportunity costs are not a separate category of cost, but rather represent a different frame of reference for measuring the cost of capital employed in achieving regulatory compliance, with financial costs representing the other option in this regard.

Macroeconomic costs

These are cost impacts on key macroeconomic variables such as GDP and employment caused by regulatory requirements. Few specific regulatory measures will have discernible macroeconomic costs. However, they may constitute a highly significant cost item in some cases.

Conclusion

As the above discussion suggests, the costs of regulation will, in many cases, include substantial items that fall outside of the scope of compliance costs, as defined in this guidance document. Where significant costs of one or more of the above types are identified, reference should be made to their existence and possible importance. This ensures that, while there may be significant challenges in estimating these costs, they are weighed to some extent in the decision-making process.

Notes

1. Note that, some member countries use different methods of categorisation. In the United Kingdom for example the Better Regulation Guidance places enforcement costs, that is costs incurred by both regulators and businesses generated from enforcement activities, as a category of regulatory costs. (UK Department of Business, Innovation and Skills (2013), p. 69). Similarly, the European Commission Impact Assessment Guidelines treat Implementation Costs as a stand-alone category. (European Commission (2009), Part III, p. 39).

2. As a result, some jurisdictions (e.g. the European Union) treat financial costs as an element of regulatory compliance costs.

Chapter 2

Categories of substantive compliance cost

Figure 1.1 also provides a taxonomy of the substantive compliance costs which are the focus of this guidance document. A fundamental issue for compliance cost assessment is to *identify* all of the costs expected to arise from the adoption of the regulatory proposal. The following discussion contains definitions of each major category of substantive compliance cost. The checklists contained in Annex A can be used to assist in identifying the full range of compliance costs associated with the regulatory proposal.

Implementation costs

Implementation costs are the costs regulated entities incur in familiarising themselves with new or amended regulatory compliance obligations, developing compliance strategies and allocating responsibilities for completing compliance-related tasks. In large part, therefore, they are short-term costs, incurred after a new regulatory requirement is adopted. That said, regulated groups may subsequently decide to revise and update their regulatory compliance strategy and would, in such cases incur additional implementation costs.

Direct labour costs

Direct labour costs are the costs of staff time devoted to completing the activities required to achieve regulatory compliance. Only the costs of staff directly involved in undertaking these activities should be included: the costs of staff supervision/management are included in the overhead cost category (see below).

Direct labour costs include two main elements:

- the cost of wages paid; and
- non-wage labour costs, including pension contributions, sick leave, annual leave, payroll taxes, personal injury insurance, etc.

Overhead costs

Overhead costs include the costs of rent, office equipment, utilities and other inputs used by staff engaged in regulatory compliance activities, as well as corporate overheads, such as management inputs, that are attributable to compliance activities.

Equipment costs

Business will need to purchase items of capital equipment to comply with many kinds of regulations. This can include both machinery (e.g. equipment to treat the emissions from a production facility to conform to new emissions standards) and software (e.g. programs required to undertake real-time monitoring of actual emissions).

Where capital equipment is wholly or largely purchased as part of the firm's strategy to achieve regulatory compliance, some or all of the costs of this equipment should be included in the compliance cost assessment. Specific guidance on this issue is provided below.

Materials costs

Materials costs are the incremental costs incurred in changing some of the material inputs used in the production process in order to ensure regulatory compliance (thus, they are sometimes called "input costs"). They are therefore ongoing costs.

An example of materials costs would be the incremental costs of substituting single-glazed windows with double-glazed windows in new residential buildings in order to comply with new regulations adopting stricter energy efficiency requirements.

External services costs

This cost category can be defined as the cash cost of payments made to external suppliers providing assistance in achieving regulatory compliance. For example, faced with more stringent emissions controls, a firm may hire consulting engineers to advise on the available means of reaching compliance and their relative costs and benefits.

External service providers are likely to be used where achieving compliance requires specific technical expertise that the firm may lack, or where significant compliance obligations are imposed with little notice given or time for forward planning, thus straining capacity.

Cost estimation

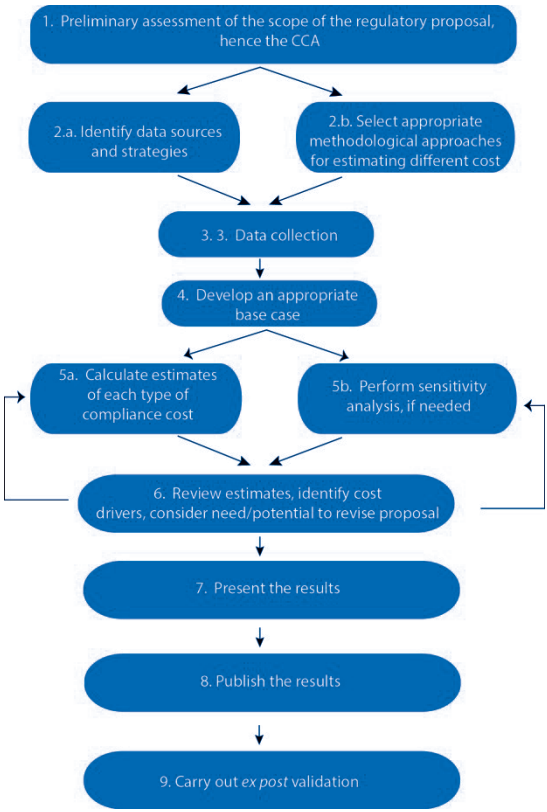
For many of the above cost categories there are several possible approaches to cost estimation. The appropriate approach to be used is likely to differ according to the nature of the regulations being assessed and the extent of the costs imposed. A range of methodological approaches to cost estimation, suited to different policy contexts, are discussed in the following sections.

Chapter 3

Process for completing a compliance cost assessment

Figure 3.1 is a diagrammatic representation of the major steps involved in carrying out a compliance cost assessment. This process is essentially the same as that used in conducting a broader RIA, albeit that benefits must also be identified and estimated in the latter case and a full range of policy options considered. The remainder of this section provides detailed guidance on completing each step in the process.

Figure 3.1. Flow chart of compliance cost assessment



A key point to emphasise is that a *CCA is not a simple, sequential process*. The arrows from Step 6 back to Step 5 highlight the fact that the initial results of CCA can and should be used to inform the policy process, supporting the refinement and improvement of the initially identified policy options and, in some cases, their supplementation with, or replacement by, entirely different options. This is a fundamental element of CCA, as its ability to reduce regulatory costs and improve regulatory quality is crucially determined by the effectiveness of the feedback loop. Therefore, the initial cost estimates developed as part of CCA should be subjected to careful and critical scrutiny before proceeding to the next steps.

Preliminary assessment of regulatory scope

A preliminary assessment of the regulatory proposal can provide a general indication of the scale of the compliance costs likely to be imposed. Understanding whether the likely compliance cost impacts are minor, moderate or major allows consideration to be given to whether a CCA is required and, if so, the appropriate scale of CCA efforts and the methods that should be used. Informal consultations with regulated entities and policy officials – e.g. official from other jurisdictions that have already adopted similar regulation, or with officials from other ministries that administer comparable regulatory provisions – can be effective and low cost means of informing a preliminary assessment. Another option may be to use some of the checklists found in Annex A to assist in developing a basic process analysis.

Proportionality

Fully quantifying the compliance costs of regulation can be a time consuming and resource-intensive task, depending upon the complexity of the initiative under consideration and the availability of data. It is therefore important to keep sight of the principle of proportionality. In this context, proportionality generally implies that the investment undertaken in completing a compliance cost assessment (and in conducting any other RIA elements that may be required) should be proportionate to:

- The likely size of the costs that the regulation will impose; and
- The potential for the compliance cost assessment to influence the final shape of the regulations.

However, another factor affecting the question of the appropriate level of analysis is that of how widely distributed are the costs. That is, some regulations may have relatively limited expected cost impacts in aggregate, but impose significant costs on members of a specific, relatively small group.

In these circumstances, the importance of the impact on a particular group may be seen as justifying the adoption of a more rigorous analytical standard than would be the case were only the aggregate impact to be considered.

In general, the greater the expected impact of the proposed regulations, the more detailed (and resource intensive) the compliance cost assessment that is merited. Nonetheless, a key consideration is that the purpose of these assessments is to provide the basis for better policy choices to be made. This implies that the greater the range of potential policy outcomes (and hence the size of the potential impact of CCA) the greater the resource input to CCA that can be justified. Conversely, where the range of policy options is limited (e.g. because primary legislation or supra-national legislation such as that of the EU specifies regulatory approaches in some detail), a less thoroughgoing CCA may be required.

Data availability will also affect the type of CCA that can feasibly be carried out. However, here the relationship may be an inverse one: where data are scarce and uncertainty as to the costs of a policy proposal consequently high, there is likely to be a need for greater use of more sophisticated approaches such as sensitivity analysis.

The following sets out four levels of CCA, which are differentiated according to the degree of quantification (if any) adopted and the extent of data collection effort required. It is presented as an illustrative example of the practical application of the proportionality principle in respect of CCA, following the conduct of a preliminary assessment of likely regulatory costs, and is consistent with the need to target CCA resources carefully, particularly in contexts in which the availability of relevant expertise is limited.

However, the actual approach taken to this issue must take account of any specific policies that have been adopted. For example, some OECD countries require that all CCA include quantitative analysis, thus ruling out the use of a purely qualitative approach for regulations of limited scope or expected impact.

a. Qualitative CCA

A basic level of compliance cost assessment is one that is entirely qualitative. As suggested above in relation to preliminary assessments, this can involve:

- using a checklist approach and consultation with potentially affected businesses to identify the full range of compliance costs likely to arise; and

- conducting a qualitative assessment and ranking of these costs as minor, moderate or major in size.

While the information conveyed to decision-makers by this type of basic assessment is limited, it can nonetheless contribute positively to the policy process by:

- highlighting the key "cost drivers" within a regulatory proposal and potentially encouraging efforts to review and revise the proposal in order to reduce the size of these costs;
- identifying which parties will bear the costs of regulatory compliance; and
- clarifying the requirements for government administration and enforcement.

Where resources for conducting CCA are limited, or data are scarce, adopting a largely qualitative approach may be appropriate, particularly in respect of small-scale regulatory proposals.

b. Basic quantitative CCA

This approach represents the most basic level of quantification in the CCA context and focuses on obtaining rough estimates of the key compliance costs. With this approach the main cost drivers can be quickly identified and consideration can be given as to what further analysis may be needed to enable the regulatory proposal to be refined and improved.

c. Medium-scale CCA

A medium-scale assessment should include substantial quantification of the costs, but may entail the use of a range of benchmark figures, or rules of thumb, in place of specific data based on stakeholder consultation and broader research.

For example, this could include the use of economy-wide average wage figures instead of specific estimates derived from industry of the likely wage costs in the particular regulatory context. Similarly, it could include the use of benchmark figures for overhead expenses and for the economic life of capital equipment.

However, where industry-specific data are readily available, or obtainable at low cost, they should be used even in medium-scale compliance cost assessments in preference to generic, or benchmark, figures.

d. Major CCA

CCA in respect of costly and far-reaching regulation should, if possible, incorporate significant data-gathering efforts, such as stakeholder surveys and workshops, research on the costs of similar regulation adopted in other countries and review of relevant research literature on key issues driving regulatory costs.

The analysis should try to use sector-specific data in cases where the regulations would affect only certain parts of the economy, while time horizons should be chosen carefully to ensure that they provide a clear view of average costs in cases where capital equipment will form a significant element of total compliance costs.

How to apply the proportionality principle

In providing guidance on what level of compliance cost assessment is required, several approaches to setting thresholds are possible. Most obviously, a threshold figure for expected costs can be adopted. Thus, for example, the United States' RIA system has long used a threshold requirement that only regulations expected to impose costs of more than US$100 million annually are required to be subjected to a full benefit/cost analysis. This approach is conceptually consistent with the above-mentioned principles of proportionality (albeit only in its first aspect), but is subject to the difficulty of assessing the likely size of regulatory costs with this degree of precision when, by definition, a compliance cost assessment has not yet been undertaken. Some countries (e.g. the United Kingdom) have addressed this issue by requiring a formal preliminary assessment to be undertaken, which provides a general understanding of the size of likely regulatory costs and forms the basis for determining what level of assessment will subsequently be required.

An alternative approach is to provide only qualitative guidance as to the level of analysis of compliance costs (or other RIA elements) that is required. Where there is a requirement for compliance cost assessments to be assessed and approved by a regulatory reform body, this approach implies that actual practice will be determined to some extent by negotiation between this body and the ministry preparing the assessment.[1]

Proportionality and resource constraints

Ensuring that a proportionate approach is taken to CCA is particularly important where the resources able to be devoted to CCA (and, in particular, expert resources) are very limited. That is, it is essential to ensure that limited resources are deployed to their highest value uses – i.e. that CCA is

well-targeted. The use of preliminary assessments is potentially very useful in such contexts, as it provides an information base for determining where further analysis is required and the appropriate extent of further analysis.

As noted above, CCA adds most value to the policy process where the potential costs of regulation are greatest and where the scope for analysis to yield different policy outcomes is substantial. Thus, limited resources should be directed to CCA that have these characteristics. In general, in contexts in which resources for conducting CCA are more limited, the threshold level of cost impact above which CCA is required should be set at a higher level, so that only the most important regulatory proposals are assessed, or those that - while not imposing high costs overall - have major impacts on a specific group.

In addition, consideration should be given to tailoring the analytical requirements adopted to the environment of limited resources. At the broad level, adopting a top down approach to the analysis, rather than a more detailed bottom up approach, will reduce resource requirements in most circumstances.[2]

In addition, the use of average or rule of thumb values for many cost items (e.g. using an economy-wide average hourly wage rate, rather than researching average wages in a particular sector) can also reduce significantly the size of the resource requirement for CCA, although care should be taken to assess the extent of the likely loss of precision in the cost estimates resulting. Moreover, where preliminary analysis suggests that particular compliance obligations will yield low costs, it may be appropriate to avoid undertaking more detailed analysis of these, instead focussing more resources on the identified major cost drivers.

Identify data sources and strategies to be used

The choice of appropriate data collection strategies should be based on the decision regarding the scope of the CCA made in Step 1 and an initial assessment of a) data needs and b) available data sources. This should involve identifying key areas of uncertainty (e.g. the number of businesses affected, the relationship between current practice and the proposed regulatory requirements)[3] and focusing data collection efforts on these.

Number of regulated parties affected by the regulation

Determining the size of the group that would be subject to the proposed regulation is crucial to developing reliable cost estimates. The risk of making large errors in estimating these numbers is often likely to be much greater than the risk of similarly large errors in estimating the unit costs to

individual businesses or regulated parties of complying with particular regulatory requirements. This means that research on the number of affected parties should generally receive high priority.

Where regulation of industry is concerned, potential sources of information on which to base estimates of the number of affected firms include:

- government statistical collections;
- industry associations;
- academic research;
- information from other government departments (e.g. where other existing regulations affect a similar group);
- licensing or registration data;
- information from regulators in other, comparable jurisdictions;
- insurance claims data; and
- surveys of potentially affected industry sectors (either existing survey-based data or the results of surveys undertaken as part of the compliance cost assessment process).

If the proposed regulation is likely to be widely applicable, existing data such as that contained within statistical collections may well prove adequate. However, where regulation focuses on more specific areas, generally available information is less likely to provide relevant guidance. Consultation with industry associations or other representative bodies may provide usable data, particularly where these bodies have a large membership, covering a significant proportion of the regulated group. This approach is cost effective and likely to constitute an appropriate first step. Even where these groups are unable to supply usable information, they may be able to facilitate the conduct of surveys of their members.

Statistically valid surveys may be expensive and time consuming to administer, both for government and for stakeholders, and may therefore not be appropriate or feasible, except where regulatory impacts are potentially significant. However, small-scale surveys can provide broad indications of the scale of expected regulatory impacts while, if estimates of compliance cost are released as part of a public consultation process, feedback on them can be obtained and amendments made.

Another, high level option is the use of the Business Test Panel model. Originated in Denmark in the 1990s, this model has been taken up by the

European Commission and now comprises a group of around 3,600 businesses that are regularly consulted on the likely impacts of regulatory proposals. This structured approach can help to ensure that feedback is more reliable, since the businesses involved will be more familiar with the data collection process and its purposes.[4] Importantly, this model can be used at an early stage of the regulatory development process, providing inputs that will help determine whether regulation is required.[5]

Box 3.1. **Business Test Panel example: Unfair business to business practices**

The European Commission (EC) used the Business Test Panel model in 2011 to inform itself of the nature and extent of unfair business to business practices and help determine whether a regulatory or other policy response was required. During a three month consultation period, 700 businesses responded to a survey which sought information on whether they had experienced unfair practices, in what specific business context they were experienced (e.g. pre-contract negotiations, being forced to accept unfair contract terms) and to what extent these practices varied between Member countries.

The survey also sought data on what specific unfair practices were most common and problematic and the responses were used to determine the content of the subsequent EU policy response. Key concerns were found to include withholding essential information, territorial supply constraints, unilateral contract variations, non-transparent and disproportionate contract penalties and transfer of business risk to the other contracting party.

The use of the Business Test Panel in this case both served to confirm that the extent of the problem identified required EU intervention and to guide the design of the policy response.

Source: European Commission (2012), *Summary Report of the Responses Received to The Commission's Consultation on Unfair Business to Business Commercial Practices*

Avoiding bias

A further issue to consider in determining which data sources to use is the need to recognise potential bias and act to minimise or compensate for this. Thus, while industry sources have the advantage of giving access to detailed understanding of the context in which the regulation must be implemented, there are clear incentives for compliance costs to be over-estimated, as governments may be seen as being less likely to proceed with proposed regulation if it is found to be unduly costly. Conversely, consumer or other civil society groups lobbying in favour of new regulation may tend to under-estimate its cost impact (and/or claim higher benefits than are likely to be realised).

Seeking multiple sources of data can help to address issues of bias, as can investigating the estimates provided by seeking to verify the component parts from which they are derived.

Transparency

Finally, the CCA report should clearly identify all of the data sources and assumptions used in making the assessment. Transparency protects against bias in the analysis by acting as an accountability mechanism. It will also enhance the credibility of the analysis. Importantly, where compliance cost estimates are published it will also enable stakeholders to review your analysis, challenge assumptions or provide alternative data. By thus improving the quality of stakeholder feedback, transparently presenting all data and assumptions will tend to enhance the quality of your final analysis.

Select appropriate methodological approaches to cost estimation

As noted above, different methodological approaches can be used to estimate different types of compliance costs. In addition, the approach taken should respond to the specific regulatory circumstances and the scale of the CCA being undertaken. This section highlights a number of options for assessing particular kinds of compliance costs and discusses the contexts in which each may be appropriate. It is structured according to the taxonomy contained in Figure 3.1. All of the methodological approaches discussed rely on the assumption that compliance can be broken down to a relatively precise set of activities to be carried out. However, this is not always a straightforward task, particularly where complex policy proposals are considered, where the range of starting positions across regulated entities is wide and where there are potentially numerous different ways to achieve compliance. These factors should be taken into account when choosing the most appropriate method and when analysing results.

Additional information on these issues is contained in Annex A.

Direct labour costs

a. Wage costs

Wage costs are determined by the amount of time taken to complete the required compliance activities and the hourly wage rate of the relevant staff. Particular attention should be paid to the estimation of the time taken, since this is particularly challenging and likely to be subject to a wider margin of error than the estimation of hourly wage rates.

a) Time taken to complete activities

Where compliance costs are likely to be significant, surveys of affected businesses may be an appropriate means of obtaining estimates of the time required to reach compliance. Such surveys may range from the small-scale and informal, where less far-reaching regulation is concerned, to professionally developed, pre-tested survey documents administered to structured, statistically valid samples, where very significant regulation is contemplated. In either case, a key requirement is that to have a clear view of the specific compliance obligations likely to be created.

This will be especially important if a "bottom up", or disaggregated approach to CCA is to be adopted, since you will need to be able to specify *ex ante* each individual obligation.[6] Conversely, where a top down approach is taken, it may be feasible to seek information from business on the specific compliance processes they envisage.

Process analysis

Where external data are limited or unavailable, the time required to complete compliance tasks can be estimated by conducting a process analysis. This involves developing a breakdown of the specific tasks that must be completed in order to comply with regulatory requirements and estimating the time taken to complete each task. The use of a checklist can assist you to identify all relevant tasks.

See Annex A for task checklists for business, government and citizens.

Some compliance cost manuals (e.g. Germany) also provide benchmark estimates of the time likely to be required to complete a range of common regulatory compliance obligations. This approach may be appropriate where there is significant difficulty in obtaining usable estimates from regulated parties.[7]

Alternatively, you may need to seek external advice from experts, either within government or in the business sector. This may be necessary where the specific activities that are required to reach compliance are difficult to determine or where a number of different approaches are possible. Consultants or other experts who are familiar with the affected industries and their operations are likely to be better able to predict how affected industries will go about complying with their obligations.

However, recourse to external expertise is likely to be necessary in only a relatively small proportion of CCA cases. Other options that should be considered in attempting to develop cost estimates are:

- To identify other regulations that impose similar obligations and seek data on the time taken to complete regulatory requirements in those circumstances; and
- To seek information directly from affected businesses by conducting surveys of an appropriate sample of firms. While surveys can be expensive and time-consuming, this option may need to be considered where the other approaches noted above do not yield satisfactory data.

b) Estimating the wage rate

There are several means of estimating the applicable hourly wage rate. The following highlights three of these and suggests in what circumstances each may be appropriate.

Economy-wide average wage costs

The simplest approach to estimating wage costs is to use an economy wide average wage figure, which can be sourced from national statistical databases. This approach may be appropriate if the proposed regulations would be widely applicable; that is, the regulations would affect a range of industries or sectors across the economy. Alternatively, this approach might be used if the impacts of the proposed regulation are likely to be relatively small and a limited compliance cost assessment is being completed.[8]

It may also be necessary to apply a discount or a premium to the average wage cost figure. You may consider applying a discount where the tasks required to be completed are relatively simple, and likely to be performed by relatively junior, or low-paid staff. Conversely, where carrying out compliance tasks involves exercising judgement, or the use of technical skills, it may be appropriate to apply a premium to the average wage rate.

Sectoral average wage costs

Where regulations largely affect only one, or a few, industry sectors, you may consider using sector-specific average wage data. This data is also likely to be available from national statistical collections. Alternatively, industry associations may be able to assist, or market research reports may be available. As above, consideration can be given to applying a discount or a premium to the average wage cost figures where appropriate.

Survey-based data

Where regulation is expected to have significant compliance cost impacts, consideration should be given to seeking estimates of wage and other costs from the affected businesses. A structured survey is likely to yield the highest quality data, particularly if a data checking process (e.g. telephone follow-up, or direct interviews) is also used. An important consideration is to accurately describe the nature of the activities that must be completed. This will assist respondents to determine what kind of staff inputs will be required (i.e. what skill levels and types are required).

However, surveys can be expensive and time consuming to administer, particularly if the number of different sectors must be surveyed because the regulations will have widespread impact. Hence, this approach should only be used where the increasing accuracy obtained is likely to significantly affect the overall cost estimates.

b. Non-wage labour costs

Non-wage labour costs are the additional costs of employing labour, beyond the payment of direct wages. They include pension contributions, sick leave, annual leave, payroll taxes, personal injury insurance and the like. Unlike many cost categories, these costs will be similar for most firms. They are therefore relatively easy to estimate and a benchmark figure, based on a percentage of the direct wage cost, can be used in a wide range of circumstances.[9]

Alternatively, where regulation affects one particular sector of the economy, you may choose to seek sector specific data on these variables. This may be appropriate where there is reason to believe that some non-wage labour costs differ significantly from average figures.

Overhead costs

Overhead costs include the costs of rent, office equipment, utilities and other inputs used by staff engaged in regulatory compliance activities, as well as corporate overheads, such as management inputs that are attributable to compliance activities.

Where regulatory compliance activities are undertaken as a discrete activity of the firm – i.e. where a unit is largely devoted to regulatory compliance, it may be possible to estimate overhead costs directly. However, a common problem is that the scope of the costs included under the heading of overhead costs tends to vary widely. This means that estimates derived from sources such as surveys are often not comparable across respondents.

Thus, the option of adopting a benchmark figure is often preferable, in part because it simplifies the overall cost calculation significantly. One benchmark figure adopted in an Australian RIA manual is that overheads should be assumed to be equal to 50% of the direct wage costs attributable to regulatory compliance. (Victorian Government, 2011a, p. 11)

While most guidance material recommends accounting for overheads as part of regulatory compliance costs, there are circumstances in which it may be appropriate to exclude these costs, particularly where regulation with limited impacts is concerned. As noted in the New Zealand benefit/cost manual:

> *For resources to be allocated to their best possible use (allocative efficiency), it is essential that marginal, not average, benefits and costs be used in CBA. In practice, this means that only costs that change existing expenditure should be included. Overhead costs should not be included unless there is an incremental change in overhead costs resulting from the initiative ... An example of this might be a proposal that increases total staff. An increase of 2 staff from a base of 100 staff is unlikely to result in an incremental change in overheads whereas an increase of 50 staff probably would.* (New Zealand Government, 2005, p. 16)

Note: Further guidance on this issue of the appropriate conceptual approach to adopt in determining the scope of compliance costs is included in Annex A of this guidance document, at Top down versus bottom up approaches.

Equipment costs

Business will need to purchase items of capital equipment to comply with many kinds of regulations, while such expenditures can often constitute a very large proportion of total compliance costs. This means that care should be taken in the estimation of these costs. The following discussion highlights the fact that the appropriate treatment of capital equipment costs can differ significantly according to the specific regulatory circumstances. In estimating these costs, the following issues should be considered:

Attributability

In many cases, the regulatory requirement will cause expenditures that would have been undertaken in the future to be brought forward. For example, tighter emissions standards can require companies to modernise

production processes. However, the existing production equipment may already have been depreciated to a significant extent. Moreover, doing so may yield important benefits to the company in addition to enabling it to achieve regulatory compliance.

These factors mean that, while the regulation may prompt substantial expenditures on new or upgraded equipment, the full costs involved can, in many cases, not appropriately be attributed to regulatory compliance. Conversely, it is important for decision-makers to know the size of these gross costs to which adopting the regulation will give rise.

An appropriate approach is to provide a separate accounting of the gross and net costs as part of the compliance cost assessment. This would involve:

- estimating the total cost of new equipment purchases prompted by the need to comply with the regulation, and
- discounting this cost by an appropriate percentage amount.

Conceptually, the size of this discount could vary widely. Where regulation requires business to purchase additional equipment solely for the purposes of regulatory compliance and there is little or no other benefit to the business, , the full cost of the equipment can be attributed to the regulation.

Similarly, in an industry in which most participants have recently updated their key productive equipment, estimates of the cost of a regulatory provision that requires further change would attribute most of these additional costs to regulatory compliance.

Box 3.2. **Example: Regulation of solariums**

Several Australian states adopted more stringent regulations in relation to the use of commercial tanning devices (solariums) in recent years. These regulations effectively required many industry participants to purchase new equipment. However, further regulatory change led to the banning of commercial tanning services and the sale of tanning devices. In this case, the "book value" of the solariums rendered redundant by the law is high and the costs attributable to the regulation should reflect this.

Conversely, where significant re-investment is likely to occur in the short term without regulatory intervention, specific provisions that affect the choice of new equipment may contribute little to the costs actually incurred.

Equipment costs may also arise indirectly when existing machinery needs to be modified due to a regulation-induced change in an input used (for instance, a new catalyzer must be bought because of a modification in the composition of a chemical input caused by the introduction of new safety regulation on chemicals).

Both the gross and net costs of upgrading capital equipment are relevant to decision-makers. Thus, in an adverse trading environment in which businesses experience difficulties and high costs in securing access to capital, the existence of high gross costs may be a key consideration, even if net costs are relatively low. Conversely, where much of the affected industry sector will need to re-invest in new productive equipment in the near term for commercial reasons, it may be considered an appropriate time to adopt new regulatory standards that will require change to productive processes, as the incremental costs of the regulation are likely to be minimised.

Given this, both gross and net equipment cost estimates should be given when the results of the CCA are reported, but these should be clearly separated and adequately explained.

Box 3.3. **Presenting compliance costs as an average annual cost**

Decision makers often wish to understand the magnitude of compliance costs in terms of the average annual cost to affected businesses (or other groups). To derive an accurate figure, it is important to ensure that all costs are taken into account and averaged over the relevant time horizon. The UK RIA guidance document sets out an approach to completing this task as follows:

The one-off costs and on-going costs for the time period over which the policy is active in the appraisal are both calculated to obtain a Present Value of Net Costs to Business. This is then divided by an annuity rate to give the Equivalent Annual Net Cost to Business. This makes it possible to compare average regulatory costs across different policies. The formula used is:

$$EANCB = \frac{PVNCB}{a_{t,r}}$$

$$a_{t,r} = \frac{1+r}{r}\left[1 - \frac{1}{(1+r)^t}\right]$$

Where:

Equivalent Annual Net Cost to Business - EANCB
Present Value of Net Costs to Business - PVNCB
Annuity Rate - $a_{t,r}$
Time period over which the policy is active in the appraisal - t
Discount rate - r

Source: UK Department for Innovation, Business & Skills (2013), *Better regulation framework manual: Practical guidance for UK government officials*.

Time horizon

Different items of equipment may have very different life spans. For example, software programs may become obsolete after a few years, while machinery used in the production process may have a much longer economic life span.

The analysis should take account of this issue by either adjusting the time-horizon of the analysis appropriately or by deriving an equivalent annual cost by amortising the equipment involved over an appropriate period (i.e. its economic life). The issue of the appropriate analytical time horizon is discussed further below.

Materials costs

Materials costs are the incremental costs incurred in changing some of the material inputs used in the production process in order to ensure regulatory compliance. For example, new energy efficiency requirements for buildings may lead to builders needing to substitute double-glazed windows for single-glazed windows, or require the installation of solar cells.

The starting point for estimating such costs must be a comparison of existing market prices for the different types of input (i.e. current vs expected materials choices). These market prices will constitute an appropriate proxy measure of future costs in most regulatory circumstances. However, in some circumstances market prices may not provide an accurate estimate. This problem arises particularly where the regulation will have a large overall impact on the level of demand for a particular type of product. In such cases, market prices may change significantly over time as a result of the regulatory requirement, in either a positive or negative direction.

In these cases, you may consider adjusting current market prices to take account of future demand impacts. However, it is important to note that the estimation of future market prices is necessarily subject to considerable uncertainty. This means that this approach should only be adopted in limited circumstances, such as:

- When the price of the particular product or service constitutes a major cost driver for the CCA as a whole;
- Where there is a strong logical argument that the introduction of the regulatory requirement will have significant price impacts; or
- Where the experience of other jurisdictions, having adopted similar regulation, suggests that such price changes are likely.

Where adjusted prices are used, the high level of uncertainty involved means that sensitivity testing should necessarily be undertaken (see section on conducting sensitivity analysis below). One reasonable approach in such circumstances is to include both a cost estimate based on existing market prices and one based on adjusted prices in your CCA report.

Demand impacts

Where regulation leads to a large increase in existing demand for a product, the price is likely to be bid up significantly, particularly if there are difficulties in rapidly expanding supply. In the limiting case, this may lead to practical issues in terms of whether regulatory compliance can be achieved within a particular time period. Consideration should be given as to whether this impact is likely to be relevant in the specific regulatory circumstances.

Standardisation

Conversely, in the medium term, regulatory requirements can have the effect of moving a specialist product into mainstream use. This can mean that its price will fall significantly as mass-production occurs and innovation further reduces production costs. In the above example, double-glazed or other energy-efficient windows may initially be substantially more expensive than single-glazed alternatives, but may fall in price as demand rises to the point where they become a mainstream product, due to the regulatory change.

Thus, when assessing the likely materials costs of regulation, the potential importance of these market dynamics should be considered and the question of whether the analysis should include such adjustments to market prices should be considered.

Cost of external services

This cost category can be defined as the cash cost of payments made to external suppliers providing assistance in achieving regulatory compliance. External service providers are likely to be used where achieving compliance requires specific technical expertise that the firm may lack, or where significant compliance obligations are imposed with little notice given or time for forward planning, thus straining capacity.

Affected businesses will often be able to provide good estimates of these costs, since many will be experienced in outsourcing the provision of various technical services and consequently familiar with both market prices and the estimation of the size of the tasks to be outsourced. External services

costs are relatively easy for business to estimate, in that they represent a distinct cash cost to businesses that is accounted for as a separate item, which will not necessarily be the case in respect of regulatory compliance activities conducted internally.

Administration and enforcement costs

These are the costs incurred by government in implementing, administering and enforcing the regulatory requirements. They can be considered to fall into the category of direct compliance costs since they are directly related to the achievement of the underlying regulatory objective and are an unavoidable part of the cost of regulation.

These can include:

- publicising the new regulatory requirements;
- establishing licensing or permit systems;
- dealing with queries from regulated entities and the public;
- processing applications;
- implementing inspection/audit programs; and
- sanctioning non-compliance.

However, with respect to this last item, only the costs associated with the issue of administrative sanctions should be included. The costs associated with legal action taken in respect of detected non-compliance (including any appeals costs) should not be included in this category, both because they relate to broader administration of justice issues and because they are, by their nature, highly variable and difficult to estimate *ex ante.*

For a detailed check list of compliance costs potentially incurred by public authorities in the context of regulatory administration, see Annex A.

Estimation of these costs is often less challenging than is the case for most other cost categories, for two reasons. First, the costs incurred are largely internal to government,[10] so that obtaining unit cost estimates will be relatively straightforward in most cases. Second, it will usually be necessary to prepare applications to the Finance Ministry for increased budget allocations to cover the costs of establishing or expanding these functions. This typically means that detailed estimates are likely to have been prepared as part of the development of the regulatory proposal and can be made available in the compliance cost assessment context.[11]

However, note that *there may be trade-offs between administrative costs and business compliance costs*, which should be explicitly identified, and considered as part of the iterative process of CCA. For example, an option that provides greater flexibility in the ways in which business can comply with the regulatory requirements may minimise costs to firms, but may increase the costs of administering the regulation, since verifying compliance will be more complex and involve a higher degree of professional judgement.

Moreover, estimation of administration and enforcement costs is necessarily predicated on the development of an implementation and enforcement strategy, which involves important judgements about the behaviour of the regulated group and its response to the proposed regulatory requirements. This implies that significant attention to these costs will be required as CCA feeds back into improved regulatory design.[12]

Double counting

A significant risk of double counting regulatory costs arises in relation to the cost of administration and enforcement costs. In many cases some, or even all, of these costs will be recovered from regulated businesses or citizens via regulatory fees and some checklists of costs to citizens or business include these regulatory fees as items to be assessed.

A preferable approach is to count the full (i.e. gross) cost of public administration and enforcement under this heading. Where there is a clear intention to recover some or all of these costs through regulatory fees, calculations of the expected revenue can also made and should be included under the business (or citizen) cost categories as appropriate. However, if this is done, it is important to clarify what is the *net* cost to the public sector, as well as the gross cost.

This approach ensures that several key pieces of information are conveyed in the cost assessment, being:

- The total cost to government of administering and enforcing the regulations;
- The level of cost recovery being achieved (enabling discussion of the conceptual issue of what proportion of costs should be recovered and why);
- The full cost to business of regulatory compliance, including regulatory fees.

Co-regulation

One complication that can arise in the assessment of regulatory administration and enforcement costs relates to regulations that are partly administered and/or enforced by non-government bodies. This is sometimes referred to as "co-regulation" and differs from self-regulation in that, in a co-regulatory system, government provides legislative backing to the regulatory arrangements put in place by non-government parties. The most common form of co-regulation involves the regulation of professionals, where the professional body typically develops codes of conduct and administers disciplinary arrangements where these are breached.

Conceptually, the costs incurred by professional associations or other non-government bodies in undertaking their roles within a co-regulatory system should also be included within the assessment of compliance costs, since they are a direct substitute for (or complement to) government administration and enforcement costs. However, in many cases, professionals donate their services to the professional association undertaking these roles, either without charge or at a highly discounted rate. This raises the issue of whether these services should be costed at a notional market rate – i.e. the true value of the services provided – or at the fees actually paid (if any). The analysis should be clear as to which approach has been taken on this point and highlight the true value of the services provided in qualitative terms if these have not been estimated quantitatively.

Presenting the results

It is important to ensure that administration and enforcement costs are clearly distinguished from substantive compliance costs per se, since the former are borne by government, at least in the first instance, while the latter are borne by the regulatory target group. That said, where full or partial cost recovery of these costs is anticipated, it is important to acknowledge that the fees that achieve this cost recovery constitute additional costs to business, as discussed above.

Develop an appropriate base case

Compliance cost assessment is conducted on an incremental basis: that is; the costs of a proposed regulation (or of a set of options for regulatory action) are measured against the expected outcome of a continuation of the existing policy position. This means that the cost that you are attempting to estimate is not necessarily equal to the total cost of complying with a regulation. Rather, the incremental cost is the difference between the cost of

maintaining existing practices in a given area and the cost of complying with the regulatory requirement.

Box 3.4. **Example of base case estimation**

If new regulations would increase the required frequency of reporting to a government agency from quarterly to monthly, the base case incorporates the cost of the currently required quarterly reporting. Thus, the incremental cost is that of preparing and lodging an additional 8 reports annually, rather than the total cost of the 12 reports required. Thus, if 1 000 firms are affected and the cost per report averages $200:

Base case costing

$200 x 1 000 x 4 reports = $800 000 per annum

Cost of compliance with new regulatory requirement

$200 x 1 000 x 12 reports = $2 400 000 per annum

Incremental cost of the regulatory proposal

$2 400 000 – $800 000 = $1 600 000 per annum.

Thus, the compliance cost assessment should report that the incremental cost of the new regulatory proposal is equal to $1.6 million per annum[13].

Thus, the "base case" – i.e. the description of current practice among the regulatory target group – must be carefully specified, as the specification of the base case can substantially affect the estimated regulatory compliance costs.

Importantly, it is necessary to be forward-looking and try to determine how the policy problem being addressed will develop in the future if no regulatory action is taken. Assuming that the current position will simply continue into the future will usually not be an adequate approach. Rather, the evolution of the problem to date should be considered, along with the market dynamics and other key factors that are likely to determine how it will change in the future.

Identifying current practice

The key element in developing the base case is that of identifying current practice among the group that will be regulated. In many cases, a proportion of the group that will be subject to the regulations will already be operating in ways that will comply with the new regulatory standards and will not incur any additional costs. Others may be partially compliant, and

be able to reach compliance and a lower cost than the poorest performers. It is essential to seek to understand current practice in order to develop a realistic estimate of the incremental costs of the regulatory proposal. That is, the costs attributed to a proposed regulation should exclude costs that businesses incur for their own commercial purposes in the absence of a specific regulatory requirement – often termed "business as usual" costs. If these current costs are not excluded, your compliance cost estimates may substantially over-state the cost of adopting the regulatory proposal.

Two main approaches to estimating the base case can be identified. The first involves determining average or standard practice in the affected industry sector and calculate compliance costs from this base. The second, which may be particularly suitable where there are wide variations in practice, involves dividing the affected group into sub-groups and calculating the incremental cost for each subgroup, thus addressing differences in current practice explicitly. In this case, it is necessary to be able to estimate the size of each subgroup (e.g. the number of affected firms) in order to be able to calculate the total cost to each subgroup using the standard formula of *cost per event x number of parties x number of repetitions per party*.

The total cost is then found by summing the costs identified for each sub-group. Where it is not possible to estimate what proportions of the target group would be in each group, the different compliance cost options can be used to develop scenarios, enabling maximum and minimum cost estimates to be developed.

An important risk in relation to the determination of "business as usual" costs must be highlighted. This is that any over-estimation of the current state of practice will have the effect of under-stating regulatory costs and thus biasing the analysis. Such over-estimation may occur because the businesses typically involved in consultations with government may disproportionately be those adopting best practices in their activities. Alternatively, regulators may be consciously or unconsciously biased in their estimates, given that any reduction in apparent compliance costs is likely to increase the likelihood that the regulation will be adopted.

Given this, care is required in estimating the base case, ensuring that you have sought input from a sufficiently broad range of entities within the target group.

Calculate estimates of each type of compliance cost

The section "Select appropriate methodological approaches to cost estimation" above, provides specific methodological guidance on estimating

each of the various categories of compliance cost. These methodologies form the basis for your estimation of the compliance costs of the proposed regulation. However, a number of other assessments must be made to enable you to complete these calculations and derive an estimate of total compliance costs. These are discussed below.

Clarifying the frequency with which costs are incurred

The frequency with which various compliance costs will be incurred can vary widely. A significant distinction is between capital and non-capital (or recurrent) costs. Issues relating to the treatment of capital costs are discussed above and include the issue of the economic life of the equipment purchased and, hence, the frequency with which this compliance obligation will be incurred.

Recurrent costs may be incurred at widely varying intervals and frequencies must be accurately estimated. The estimated frequencies should also be made explicit in the analysis, so that the appropriateness of the judgements made can be assessed by the reader. In some circumstances, the frequency with which various costs are incurred may be subject to significant uncertainty and therefore an appropriate subject for sensitivity analysis.

Determining the time horizon

The time horizon adopted for a compliance cost assessment should generally be long enough to enable an accurate view of the long-term costs of the regulation to be formed. This reflects two considerations:

- that most regulations remain in operation for many years; and
- that equipment or other "one-off" costs are often incurred in complying with regulation.

The fact that significant costs are often incurred in purchasing items with a long service life means that you need to ensure that the compliance cost estimates provided reflect an accurate view of the average costs involved over the longer-term. This implies a time horizon that allows for all such items to be fully depreciated. A 10 year time horizon is commonly used in compliance cost assessments and would be broadly consistent with this goal in most cases.[14]

For major regulatory initiatives, longer time horizons of 20, 25 or 30 years are sometimes used. However, in practice it is unlikely that many regulations will remain in force and substantially unamended over time

periods this long. Thus, it can be argued that adopting this approach in the compliance cost assessment is unrealistic or unrepresentative.

Box 3.5. **Factors to weigh in setting time horizons**

The United States' Regulatory Impact Analysis primer highlights the fact that several, sometimes competing considerations must be weighed in setting the time horizon, as follows:

When choosing the appropriate time horizon for estimating benefits and costs, agencies should consider how long the regulation being analysed is likely to have economic effects. The time frame for the analysis should cover a period long enough to encompass all the important benefits and costs likely to result from the rule. However, the agency should also consider for how long it can reasonably predict the future and should limit its analysis to that time period. Thus, if a regulation has no predetermined sunset provision, the agency will need to choose the endpoint of its analysis based on the foreseeable future or the agency's ability to forecast reliably. For rules that require large up-front capital investments, the life of the capital is also an option.

Source: OIRA (2011), *Regulatory Impact Analysis: A Primer*

In sum, the choice of time period should reflect the nature of the regulatory proposals and the circumstances in which it is being adopted. You may need to weigh different issues and come to an on balance judgement as to the appropriate time horizon to use. Discussion with the regulatory policy body is likely to be useful where there is significant doubt as to the best time horizon to use.

This issue is particularly important where both costs and benefits are being assessed as part of a Regulatory Impact Analysis (RIA), particularly because the distribution of benefits and costs across time often differs significantly. However, it remains relevant even where only compliance costs are assessed.

Discounting

Because the compliance costs of regulation are incurred at different times, it is necessary to apply a "discount rate" to enable costs to be compared on an equivalent basis. This reflects the fact that, in general, society is not indifferent to the timing of costs, preferring to pay for costs as late as possible. The need for discounting arises because the value of a dollar paid (or received) today is greater than the value of a dollar paid or received at some future time.

To take these factors into account, the stream of future costs and benefits is discounted using an interest rate (or discount rate). Discounting allows future costs to be valued in terms of today's dollars. Importantly, if two regulatory proposals are being considered that would have different impacts in terms of the timing of the costs imposed, using discounting allows them to be compared on a consistent basis.

Box 3.6. **The present value formula**

Discounting is applied in order to discover the "present values" (PV) of a range of future costs (C) and/or benefits occurring t years into the future. This is achieved by applying the following formula.

$$PV = \sum C_t/(1+r)^t$$

Many OECD countries have established a recommended discount rate for use in conducting compliance cost assessments and regulatory impact assessments. The use of a consistent rate means that regulatory proposals across all policy areas are assessed on an equivalent basis. If a guideline rate is in place this should be used unless there is a compelling reason to believe that an alternative approach should be preferred in the context of this specific regulatory proposal.[15]

Integrating quantitative and qualitative analysis

The above discussion highlights the need to quantify expected compliance costs as far as possible, subject to the need for the analysis to be proportionate in scope to the likely impacts of the regulations under consideration. However, it is important to note that some, potentially significant, costs are likely to be intangible in nature; that is, that they are not able to be quantified – or at least expressed in monetary terms – directly. Some costs are considered intangible in nature and are difficult or impossible to quantify. These costs may, nonetheless, constitute an important element of the overall cost impact of a regulatory proposal.

Intangible costs may be a more significant issue where regulation affecting the citizen, rather than business, is concerned. One important category of intangible cost is the cost of banning or restricting participation in particular activities, often as a risk reduction measure. There are clearly costs associated with such restrictions, in terms of the loss of the value people place on such participation, however, these are frequently ignored or downplayed in conducting compliance cost assessments.

In some cases it will be possible to estimate intangible costs quantitatively through indirect valuation methods such as revealed preference or stated preference studies. However, where this is not possible, your CCA should include a qualitative discussion of these costs – including evidence of their importance – and attempt to integrate this into the broader analysis.

This qualitative analysis should be integrated, as far as possible, with the quantitative analysis that will form the core of the CCA in most cases. While there are no clearly established best practices in undertaking this integration, the following factors should be considered:

- The analysis should clearly set out which of the identified compliance costs have been estimated quantitatively and which have been analysed only qualitatively;
- Indirect cost estimation methods such as those mentioned above should be used to quantify intangible costs where feasible;
- The analysis should categorise all costs that are only analysed qualitatively as being minor, moderate or major in size, when compared with the quantified compliance costs of the regulatory proposal;
- The analysis should make clear how significant the costs that are unquantified are believed to be in relation to the expected total regulatory compliance costs; and
- The analysis should clarify the extent of the uncertainty that exists in relation to the importance of the unquantified costs.

Conduct sensitivity analysis if required[16]

Where there is significant uncertainty about the value of one or more major a sensitivity analysis should be developed as part of the compliance cost assessment. Given the challenges of *ex ante* compliance cost assessment, in particular, the question of whether to adopt sensitivity analysis should always be considered. In practice, a range of cost estimates, based on different values of key variables should be presented in most cases.

The need for sensitivity analyses should be considered in tandem with the calculation of compliance costs, as suggested by Figure 3.1. This is because the process of cost estimation will allow you to identify key variables that are both:

- subject to significant uncertainty; and

- likely to substantially change the overall compliance cost estimate if different estimated values of this variable are used.

It is these variables that should be the subject of sensitivity analysis. Sensitivity analysis requires you to substitute a range of different values for cost items that are subject to uncertainty and to calculate the size of the impact these differences have on the overall outcome. An important benefit of sensitivity analysis is that it avoids giving decision-makers the impression of "spurious accuracy" as to the cost estimates provided to them, instead providing information on key areas of uncertainty and their importance.

There are several approaches to this task, which are discussed in Annex A.

Review estimates, identify cost drivers, consider need/potential to revise proposal.

Figure 3.1 sets out a diagrammatic representation of a compliance cost analysis as an essentially linear process. However, in practice, such assessments are often iterative, so that there is frequently a need to return to earlier steps in the process and repeat the analysis on the basis of a modified proposal. This iterative approach is most likely to be required where relatively complex regulatory proposals are being developed, where substantial costs may be imposed and where there are several potential means of achieving the regulatory objective.

Therefore, the initial compliance cost estimates should be reviewed to identify key issues and assess the potential need to revise or refine the regulatory proposal. The following factors should be considered:

- *Assessment of the total estimated cost.* Is the estimated cost proportionate to the regulatory objectives sought (i.e the benefits sought to be achieved)? Has the analysis revealed any important but unanticipated costs?
- *Identification of major cost drivers.* What aspects of the regulatory proposal give rise to the largest cost impacts? To what extent are these cost drivers linked (i.e inter-dependent)?
- *Consideration of options for cost reduction.* Are there options for reducing major costs without changing the underlying logic of the regulatory proposal? Alternatively, are there alternative approaches which could potentially achieve the regulatory objective at lower cost?

If potentially preferred options are identified, they should be subjected to an equivalent process of compliance cost assessment and the results compared with those you initially developed. This process may need to be repeated, depending on the results obtained.

This, iterative, aspect of the compliance cost assessment process is fundamental to its ability to support improved policy outcomes. Moreover, where a substantial change to the initial proposal is adopted, there may be a need for further iterations in order to refine and optimise the new proposal, minimising its cost impacts while retaining its ability to achieve the regulatory objective. Conceptually, this aspect of CCA helps to broaden the policy/regulatory process, so that the focus moves to the underlying regulatory objective and a wider consideration of potential means to achieve it (see for example, Norwegian Economic Analysis Handbook, 2010).

Box 3.7. **Revising a regulatory proposal following initial CCA**

Proposed regulations governing radiation safety in Victoria (Australia) required a range of medical diagnostic equipment which emits radiation to be tested periodically to minimise the risk of excessive radiation exposure to patients arising from equipment malfunction. The initial proposal included dental x-ray devices within the ambit of this periodic testing requirement. However, initial CCA showed that the high number of these devices in use meant that including them in the testing regimen would substantially increase total compliance costs. Identification of dental x-ray machines as the major cost driver led to further investigation of the risk of excess radiation exposure from them. This was found to be relatively small and the regulatory proposal was revised to exclude dental x-ray machines from the periodic testing requirement.

Present the results

Decision making will be informed by the compliance cost assessment, but undertaken separately to it. The locus of decision-making will differ according to the type of regulatory instrument being considered and the institutional arrangements of particular countries. Thus, decisions may be taken by individual Ministers, by the Cabinet collectively, or by heads of government ministries. Moreover, decisions may need to be approved by Parliament or subject to other appeals. Hence, it is essential to understand the nature of the decision process and who are the decision-makers and ensure that the results of your compliance cost assessment are presented in a way that will be informative and useful in guiding the decisions taken.

As the above discussion indicates, a compliance cost assessment will frequently constitute a detailed and complex exercise and result in the

production of a number of cost estimates that help to clarify the significance of uncertainties as to different variables. Consequently, care must be taken to ensure that the final report of the assessment is clear and well structured. Even a high quality compliance cost assessment may have limited influence on regulatory outcomes if the document reporting its results fails to communicate effectively with decision-makers.

As with any complex analysis, a fundamental requirement is to produce a clear and concise summary that conveys the main policy relevant conclusions. This will ensure that the key messages are readily accessible to policymakers. Key issues that should be highlighted and adequately supported by clear analysis in the main body of the report include:

- *Total costs:* what is the total cost the regulations are expected to impose, expressed both in terms of aggregate costs over the entire time horizon of the analysis (which should be specified). Clarifying the scale of these costs with reference to a relevant benchmark can also assist in judgements about proportionality (for example, by scaling the costs against the average turnover in the industry, or other major costs incurred by affected businesses, or by reference to the regulatory objective);
- *Timing of the major costs:* When will the major costs be incurred? What is the relative size of "one-off" costs, usually incurred in the short term and on-going costs?
- *Major cost drivers:* Which elements of the regulatory proposal generate the most significant costs? Has consideration being given the means of reducing these costs?
- *Costs per affected business/citizen/other regulated entity:* What is the size of the costs borne by individual regulatory entities? As with the recording of total costs, scaling these costs against a benchmark will aid in the understanding of their practical significance. Are there specific impacts that should be highlighted, such as impacts on groups that bear significant costs, and/or have limited capacity to pay (e.g. small business, low-income consumers).
- *Cost incidence:* Which groups bear the major costs imposed by the regulations? To what extent do the cost impacts vary between different groups? This question should be answered in some detail, for example identifying differential impacts on smaller or larger businesses, or on different industry sectors.
- *Robustness of the estimates:* What degree of confidence can be attached to the cost estimates used? Where sensitivity analysis has

been conducted, summarise the results of the different scenarios, the likelihood, and their implications for overall regulatory costs.

- *Major areas of uncertainty:* Identify any major areas of uncertainty surrounding the impacts of the regulations. This task is closely related to the conduct of sensitivity analysis and should provide an understanding of the various scenarios presented.

The *OECD Recommendation on Regulatory Policy and Governance* recommends that compliance costs be assessed within the context of a larger RIA. Where this is done, it is important to ensure that the cost analysis is well integrated with the discussion of the benefits of the regulatory proposal, so that decision-makers are able to make clear judgements regarding the proportionality of these costs and the strength of the case for adopting the proposal. Formal benefit/cost analysis should be used wherever feasible.

Publish the results of compliance cost assessment

Where possible, compliance cost assessments should be published.[17] Publishing assessments can contribute significantly to the effectiveness of CCA in improving regulatory outcomes in two main ways. First, publication enables stakeholders to review the analysis undertaken and critique the data, assumptions and/or methodologies used. If publication occurs in the context of public consultation conducted during the legislative process, these critiques can, in turn, act as important inputs to the preparation of a revised analysis. This, in turn, may lead to further modifications to the regulatory proposal.

Second, knowledge that the CCA is subject to a publication requirement can have an indirect effect in improving the quality of the analysis, since officials responsible for preparing the analysis will be aware that they are to be held publicly accountable for its content. This dynamic will operate even if publication is not accompanied by a public consultation process.

The effectiveness of publication in improving the analysis and, ultimately, regulatory outcomes is dependent on a number of factors. In particular:

- *Opportunity for consultation.* Where possible, publication should occur in the context of a formal consultation process, thus providing opportunities for direct communication between stakeholders and policy-makers enhancing "feedback loops".
- *Timeliness.* Publication should ideally occur before final decisions on the regulatory proposal are taken, so that the feedback received can influence this final decision. The consultation period should be

of sufficient duration to enable interested parties to review the analysis and draft and submit appropriate responses.

- *Manner of publication.* The means of publication adopted must be adequate to ensure that all interested parties are made aware of the existence of the analysis. This may include publication in newspapers, magazines, professional journals, on Ministry websites or in other contexts.

Conduct *ex post* validation

Compliance cost assessment, like most ex-ante analysis, is subject to a substantial degree of uncertainty. If the assessment substantially underestimates the true regulatory costs, the desirability of the regulations may be called into question. More generally, as the Norwegian Economic Analysis Handbook points out, a fundamental part of good government performance management is to measure and monitor the results of measures undertaken. Information on the results of these measures provides the basis for learning, adaptation and improvement (Norwegian Economic Analysis Handbook, 2010, p. 58).

This implies that consideration should always be given to programming the conduct of an *ex post* assessment to verify the extent to which the practical experience with the implementation of the regulations is in accordance with that anticipated in the *ex ante* compliance cost analysis. An increasing number of OECD countries have, in any case, a requirement that new legislative instruments be reviewed within a specified time period. Thus, there may be a formal legal requirement for a review to be undertaken in some cases.

The timing of *ex post* assessments is a significant determinant of their quality and usefulness. Sufficient time must be allowed for the regulations to be fully implemented, so that actual costs can be properly understood, however, the analysis must be timely so that any desirable regulatory changes can be brought into effect as soon as feasible. It is also arguably more visible politically to amend relatively recent regulations than those that have been in force over the medium term.

While *ex post* analysis in this context is conceptually very similar to *ex ante* analysis, there are necessarily some differences in terms of actual practice. In particular, the fact that regulated parties now have practical experience in taking the required actions to conform to the regulatory requirements means that they are essentially better placed to provide cost estimates. This means that there should be strong presumption in favour of surveying, or otherwise consulting with regulated parties, as a key part of

any *ex post* validation undertaken. Moreover, many compliance costs constitute "sunk costs", so that removing or amending regulation may have very different cost implications from its initial implementation.

Notes

1. This approach is followed in the Australian RIA context, where the RIA guidebook states: "In general, the depth of the impact analysis should be commensurate with the overall effects. For example, a comprehensive and detailed qualitative analysis, supported by quantitative evidence where it is available or readily obtained, may be adequate if the impacts of the proposal are not likely to be highly significant." (Australian Government, 2010, p. 36). The European Commission provides more detailed guidance, publishing roadmaps clarifying whether or not an initiative under consideration will be subject to a RIA because of "its expected significant impacts" or not (and if so, why).

2. The characteristics of these analytical approaches are discussed further below.

3. This can include identifying the "number of cases", as per the German compliance cost assessment guidance, which suggests that businesses can be grouped according to their current practice and the size of each group estimated. Different estimates are then prepared for the compliance costs that would be incurred by members of each group.

4. For more information on this initiative see: http://ec.europa.eu/yourvoice/ebtp/index_en.htm. For a discussion of the merits of this initiative in its original Danish form see OECD (2000), *Regulatory Reform in Denmark,* pp. 155-6.

5 Since 2011 the European Commission has merged the European Business Test Panel with another business consultation tool: the SME Panels.

6. This may be assisted by prior, informal consultation with business on the proposed regulatory provisions.

7 In the Swiss methodology a significant step is the "segmentation" of businesses, i.e. the classification of businesses in different groups, according to business size, or according to other criteria. When different groups of businesses have dissimilar cost structures, the segmentation can be an important step to improve the precision and facilitate the estimates, DFR (2013b).

8. See *Victorian Guide to Regulation: Appendices*, pp. 12-14 for a discussion of the use of this approach to determine an appropriate hourly wage rate for use in compliance cost assessment.

9. For example, the Victorian Guide to Regulation (*ibid*) recommends a benchmark figure of 16.5% of the direct wage costs. However, significantly higher on-cost percentages may be appropriate in some countries due to higher rates of social security contributions or other employment related charges. Similarly, in the Netherlands, Statistics Netherlands determines the standard wage tariffs. Seven types of labour categories have been identified.

10. Though some service-provision may be outsourced. For example, in Australia, the administration of traffic speed cameras and issuing of infringement is undertaken by private contractors. Where this is the case there may be commercial sensitivities in relation to the size of the costs involved which may hamper the publication of compliance cost estimates.

11. However, this reasoning does not apply to the specific case of supranational regulators and legislative bodies like the EU.

12. The New Zealand RIA guidebook (pp. 14-15) includes a discussion of the importance of these issues.

13 Unless stated otherwise the term $ in this document should be taken to mean a unit of money, and does not refer to any particular currency.

14. For example, Canada and the United Kingdom, as well as the Australian State of Victoria, all adopt 10 years as a default time horizon for analysis. Note that, even where equipment has a somewhat longer service life than 10 years, at most feasible discount rates, it will be largely amortised, in present value terms, after 10 years.

15. For a detailed discussion of the conceptual basis for setting the discount rate and of the recommended or required rates adopted in a range of OECD Member countries, see OECD (2009), pp. 83-87.

16. As an illustrative example, the European Commission recommends the following impact analysis as taking a best practice approach to sensitivity analysis. It is drawn from the commissions Impact Analysis Best Practice Library: http://ec.europa.eu/governance/impact/docs/ia_2008/sec_2008_2203_en.pdf.

17. For a discussion of OECD country practices in relation to the publication of regulatory impact assessments and the benefits of publishing these assessments, see OECD (2009), pp. 52-53.

Annex A

Additional guidance on selected topics

The previous section provided step-by-step guidance on the conduct of compliance cost assessment. This Annex includes discussions on a number of more general analytical issues that must be addressed in completing compliance cost assessments, as well as providing additional detail on a number of the topics highlighted above.

Cost attribution

The guidance provided in chapters 1-3 addresses the valuation of all types of substantive compliance costs. However, it is important to note that there are different conceptual approaches to the determination what costs should be included in the CCA and how they should be valued. The appropriate approach to take depends on the nature of the regulatory compliance obligations created and the specific impact of those obligations on the target group's broader activities. Thus, consideration should be given as to which approach is most appropriate to the particular regulatory proposal being considered. The options in this regard are as follows:

Fully distributed costs

This approach involves calculating all costs connected with complying with the regulatory obligations, including direct, overhead and capital costs. Unit costs are usually calculated on an average cost basis – e.g., if corporate overheads are equal to 50% of direct labour costs, a 50% charge on the direct labour costs associated with regulatory compliance activities would be adopted. Similarly, if an item of capital equipment has an hourly cost of $100, the cost attributed to compliance would be given by the number of hours it is used for this purpose, multiplied by the $100 average hourly cost.

This approach is likely to be appropriate when regulatory compliance requires significant new activities to be undertaken and additional resources to be employed, so that compliance forms a material element of the target group's activities.

Incremental costs

Conversely, where regulatory compliance is likely to have marginal impacts on the target group and obligations are, in large part, likely to be met to a significant degree using existing resources, the *incremental cost* approach may be more appropriate. This approach involves allocating only the direct costs associated with regulatory compliance. The incremental cost approach has two variants, which are:

- Marginal costs; and
- Avoidable costs.

In both cases, this approach involves including only those costs that are increased *in the short term* by the need to acquit the compliance obligation.[1]

Care should be taken in the selection of the appropriate approach, since the resulting costings will often differ substantially. The same conceptual issue also arises in calculating the government's administration and

enforcement costs in respect of a regulatory proposal. In this case, the costing approach taken will have significant impacts on the size of any regulatory fees that are adopted for cost recovery purposes.

Top-down vs. bottom-up approaches

A threshold question in relation to the conduct of CCA is that of whether a top-down or a bottom-up methodology should be adopted, or whether elements of these two approaches should be combined. In some OECD countries, government policy requires one or other approach to be taken in all cases. If such a policy is in place, the CCA should adopt the required methodology. However, where no specific policy requirement exists, it is necessary to make a judgement as to which method is most appropriate to your specific circumstances. The following discussion highlights key considerations in this regard.

The Standard Cost Model (SCM)[2], used in a large number of OECD countries to estimate administrative burdens, is based on a detailed "bottom up" methodology, which requires a detailed mapping of the regulatory requirements and the completion of a breakdown of these into individual compliance obligations. The time and cost required to carry out each obligation is then calculated and the results summed to obtain the estimated administrative burden. The basic calculation required to be conducted to determine the cost of each individual compliance obligation under this model is as follows:

Total Cost = Unit Cost x No. of Affected Parties x No. of Repetitions

Thus, for example, if the cost of complying with a compliance obligation averages $100 for the affected firms, the number of firms required to comply is 1 000, the frequency with which the obligation must be completed is quarterly, and the time horizon for the analysis is 10 years, the total cost of compliance for this obligation would be equal to:

$100 (unit cost) x 1 000 (number of affected parties) x 40 (repetitions) [3] = $4 000 000.

By contrast, a top down model adopts a more aggregated approach to attempting to assess compliance costs. For example, rather than calculating the number of minutes typically required to complete a specific task and multiplying this estimate by the number of occurrences of that task, a top down approach would involve determining the proportion of the relevant staff member's time devoted to that task and reporting the total cost of this activity directly. If needed, this total cost can be divided by the number of times the task is performed, in order to arrive at an average (i.e. unit) cost.

The "bottom up" approach has been widely adopted in the SCM context in large part because it encourages a detailed and systematic consideration of the compliance obligations created by a regulation. This has two key advantages:

- First, it assists in ensuring that the CCA conducted is comprehensive in scope and, by clearly setting out the specific compliance obligations involved, will also aid consideration of the proportionality of the regulatory provisions being considered; and
- Second, it provides a mechanism which encourages regulatory officials to review each obligation to determine whether it can be streamlined or simplified (or even whether it is necessary) and therefore functions as a means of helping to minimise compliance costs. This is part of the "iterative loop" of CCA, discussed in chapters 1-3.

Consideration of compliance costs at the level of individual activities may also enhance accuracy by requiring a clear focus on individual cost items. However, this potential benefit needs to be weighed against the potential for bottom up approaches to fail to account for some costs, as discussed below.

The bottom up model can be adapted to the context of substantive compliance cost estimation. Moreover, given the widespread use of the SCM in estimating one type of compliance cost – i.e. administrative burdens – there are clearly benefits in adopting a consistent approach in estimating other compliance costs. However, where substantive compliance costs are concerned, the number of individual compliance obligations will, in many cases, be substantially larger than that considered in the context of an administrative burden assessment. Thus, a significantly larger and potentially more complex analysis will be required, which may pose practical difficulties.

Thus, consideration should be given to the scope of the regulatory proposal in question and whether it is likely to be feasible to adopt a pure SCM approach in estimating substantive compliance costs. Where the number of obligations to be mapped and costed is extremely large, the size and complexity of the task may give rise to the need to modify the approach used.

Box A.1. **CCA of complex regulation in the Netherlands**

One option for managing the demands of conducting bottom up analysis for complex regulatory proposals is to group some related obligations and conduct the analysis at a more aggregated level. For example in the Netherlands, in assessing the compliance costs of complex regulatory proposals, the major cost drivers are analysed at a disaggregated level (i.e. individual obligations are costed separately), while lesser cost items are likely to be assessed in a more aggregated way. This approach can significantly reduce the resources required to complete CCA and the complexity of the resulting document, while still ensuring that the main cost elements are subject to detailed scrutiny.[1]

1. Similarly, the German compliance cost assessment manual (p. 23) notes that some costs (e.g. personnel costs) can be calculated without disaggregating them to the level of individual activities.

Alternatively, it may be appropriate to consider whether a top down analysis is more appropriate in the specific regulatory context being considered. Where some particular units are wholly or largely devoted to regulatory compliance activities, the use of a top down analysis may provide a more comprehensive analysis of actual compliance costs. This is because it is typically not possible to allocate all of a staff member's working time to specific activities: some time is necessarily "unproductive" in this sense, for a range of reasons. This means that an aggregation of the time allocated to individual tasks will generally sum to less than the total working time of the individuals involved. In this way, bottom up analysis will almost invariably under-estimate the true costs of regulatory compliance to some degree. A key benefit of the alternative, "top down" approach is, therefore, that it avoids this systematic under-estimation.

In addition, if compliance cost estimates are being sought directly from regulated firms (e.g. through a questionnaire) the top-down approach may be more feasible. This is because:

- A survey questionnaire which asks for cost estimates in respect of a large number of obligations will impose a high respondent burden, and may substantially reduce the response rate as a result, thus compromising data quality;
- As a practical matter, firms will often have substantial difficulties in providing cost estimates at a highly disaggregated level if they have no incentive to collect this type of data, whereas higher level cost estimates may be more readily obtained.

In sum, if there is no government policy in place requiring a particular methodology to be used, the content of the regulatory proposal should be considered in the light of these considerations before determining whether a top down or a bottom up approach to cost estimation is preferable in the particular case.

Estimating compliance costs borne by citizens

As discussed above, where compliance costs are incurred by business, the costs of staff time are readily estimated with reference to an appropriate wage rate, inflated by allowances for non-wage labour costs and, where appropriate, overhead costs. However, when time costs are imposed on citizens, the appropriate approach is less clear. Particularly where the time taken to comply with the proposed regulatory requirement is small, it is likely that this time will be diverted from leisure time, rather than from income-earning activities. This therefore gives rise to the question of how – or even if – leisure time should be valued in monetary terms.

In answering this question, it is important to note that a fundamental assumption of economics is that individuals trade-off between spending time at work and at leisure, until the marginal value to them of an hour of leisure time equal to the wage earned from an additional hour worked. In this context, the appropriate wage value is that of "take home pay" – i.e. the post-tax value of the additional hour's wage, since this is what is retained by the individual citizen who works an extra hour.

The assumption of a continuous trade-off between work and leisure can be criticised as being an imperfect reflection of reality in times of significant unemployment (and underemployment), as well as ignoring labour market rigidities that often mean that people have limited ability to trade off work and leisure time at the micro-level (i.e. that of hour to hour trade-offs). However, this insight from economics clarifies the basic behavioural reality involved and so highlights the fact that leisure time does have a significant value, which must be taken into account if a complete analysis of regulatory compliance costs is to be presented. Taking this approach also means that a more consistent approach will be taken in cases where some time taken by citizens to comply with regulation may be diverted from working hours and some from leisure time.

Thus, consideration should be given to using estimates of average post-tax labour rates as the basis for valuing the time taken by citizens to carry out regulatory compliance activities.[4]

Some regulations may also require citizens to purchase items of equipment. For example, a law requiring all children under a certain age to use approved child restraints when travelling by car effectively requires parents to purchase these seats. As with materials costs borne by business, the CCA should take account of the likely service life of such items, or time period over which they will be used.

Ex ante vs. *ex post* compliance cost assessments

This guidance material is, by implication, largely concerned with the conduct of *ex ante* compliance cost assessments. The policy context for these assessments is that of an attempt to determine whether the costs implied by new regulatory proposals are proportionate, or justified by reference to the objectives of the proposed regulations (or, in an RIA context, by the expected benefits of those regulations).

By contrast, *ex post* compliance cost assessments necessarily occur in the context of consideration being given to revising or removing existing regulation. The particular case of *ex post* assessment, conducted in order to validate previous *ex ante* analysis is discussed above. However, for the most part *ex post* compliance cost assessments are conducted on long established regulations as part of regulatory reform efforts.

This means that the focus of these assessments will often be on identifying specific efficiency gains – i.e. changes to regulatory process requirements or other elements that can reduce regulatory costs while maintaining the ability of the regulations to achieve their underlying objective. In this context, it is unlikely to be necessary to conduct a complete analysis of current compliance costs. That is, a higher level preliminary analysis may be sufficient to enable the identification of key drivers of overall compliance costs and, in particular, those areas where there is potential for cost reductions to be implemented without compromising regulatory effectiveness.

Such an approach enables the *ex post* assessment to be focused on a specific subset of compliance costs, with only this group being subjected to more detailed analysis. As highlighted in the section on conducting *ex post* evaluation, regulated entities are necessarily better placed to report accurate estimates of their current compliance costs in the *ex post* context. However, where the potential for cost savings to be made is the focus of the analysis, a combination of *ex post* and *ex ante* will inevitably need to be undertaken: that is; the potential costs savings can only be measured by comparing existing costs with a counterfactual situation in which alternative regulatory processes are put into place.

Many broader regulatory reform programs are focused on the potential to achieve more fundamental changes, rather than simply improving the cost-effectiveness of existing regulation. In these contexts, the *ex post* assessment of regulatory costs must necessarily be considered in the context of assessments of actual regulatory effectiveness – i.e. of the size of the benefits being achieved in practice – in order to provide policy relevant information. Thus, in this context, compliance cost assessment necessarily becomes a part of a broader RIA.

Box A.2. **The Cost-driven Approach to Regulatory burden (CAR)**

CAR is a specific *ex post* compliance cost assessment approach developed and adopted in the Netherlands. The CAR process begins with the identification of a specific industry sector and the development of an overview of all the regulations to which businesses in that subject are subject.

The next step involves identifying a "representative business" within the sector, which should be financially healthy and compliant with its regulatory obligations. A "business analysis" is then conducted, based on data obtained from the business administration and interviews with management and employing an expanded SCM model to develop cost estimates.

The CAR has five stages, as follows: Identify business cost centres, allocate costs, quantify regulatory burdens, trace the origins of the burdens and consolidate the findings. At the end of the process, the findings are verified via consultation with other businesses in the sector.

The CAR results are then used to develop a tailored "Sector Reduction Plan" for reforming regulation and reducing regulatory costs and burdens.

Source: SIRA Consulting (2013), *The Cost driven Approach to Regulatory burdens (CAR)*

Checklists of potential regulatory compliance activities

The following three checklists include a range of regulatory compliance costs that are typically incurred by business, government and citizens respectively. They should be used to maximise the likelihood that all compliance costs will be identified and assessed, as the complexity of public policy means that significant costs are often omitted. However, given the range of compliance costs that may arise in the widely differing circumstances in which regulation is adopted, they cannot be comprehensive. Hence, any additional costs that may be imposed on the parties in question should be identified as far as possible.

Business

- Familiarising oneself with the regulatory requirements;

- Identifying compliance options;
- Assessing options (including benefit/cost assessment);
- Choosing an option and developing a compliance strategy;
- Procuring equipment as required;
- Staff recruitment and/or training;
- Purchase of external services;
- Changing production, warehousing and/or distribution processes;
- Information provision (e.g. for disclosure based regulation);
- Monitoring/audit of compliance;
- Review of compliance performance;
- Design and implementation of any needed changes to the compliance strategy.

Public authorities

- Familiarising oneself with the provisions of the regulation;
- Designing implementation systems;
- Developing and implementing staff training;
- Adapting internal processes;
- Procuring goods and services and/or recruiting additional staff;
- Developing and publishing guidance material for regulated parties;
- Preparing official notices;
- Providing advice in response to inquiries, holding preliminary discussions with applicants;
- Receiving and processing applications, including:
  - Carrying out formal checks on applicants, examining and compiling data and information;
  - performing checks for completeness;
  - Confirming receipt of data/information or obtaining missing data/information;
  - Carrying out content-related checks, calculations and evaluations;
  - Holding internal or external meetings (e.g. hearings);

  - Filling in or completing forms, recording data, making classifications;
  - Checking and, if necessary, correcting results/calculations;
  - Receiving payments;
  - Issuing licences/permits.
- Record-keeping;
- Transmitting and publishing data;
- Finalizing information;
- Implementing monitoring and supervisory measures, classifying risks.

Citizens

- Familiarising oneself with the obligation;
- Obtaining advice (e.g. helpdesks, local administration, lawyer);
- Gathering and compiling and processing data and information (e.g. printed forms, documentary evidence, photos);
- Filling in forms;
- Drafting correspondence (e.g. letters, faxes, e-mails);
- Transmitting information or data to competent authorities;
- Making payments;
- Photocopying, filing and storing documents;
- Co-operating in an inspection by public authorities (e.g., general safety inspection for automobiles);
- Purchasing equipment (e.g. a child seat);
- Personally providing certain services or commissioning them to third parties;
- Verifying the implementation of obligations;
- Time expenditure for travelling and waiting (e.g. at an agency/public authority).

Summary of methodological approaches for valuing compliance costs

Table B.1 sets out a range of methods for quantifying different categories of compliance cost and highlights the major advantages and

disadvantages of each. It also provides guidance on the circumstances in which each approach may be appropriate.

Table B.1. Methodological approaches to quantification of compliance costs

Cost	Quantification methods	Advantages	Disadvantages	Indications for use
Direct labour costs: wage/salary costs	Averages calculated from survey data or less formal consultation with affected businesses or other groups (several guidebooks)	If a well-designed survey is used, a high level of accuracy in relation to current costs.	Resource intensive, may yield misleading data if survey is poorly designed. May produce accurate result in short term at the expense of a better long-term estimate.	Appropriate where regulations affect a specific sector, particularly if its wage costs are considered likely to be atypical. Alternatively, may be useful where specific skills are required to conduct major compliance tasks.
	Economy-wide average (e.g. Victoria, Australia)	Simplicity/ease of use. Should involve limited loss of precision given tendency for wage rates to equilibrate over time.	May not accurately reflect costs in short/medium term. May thus lack credibility with affected industry/industries.	Suitable where a compliance obligation will be applied across many sectors. Cost-effectiveness also suggests that this approach may be most appropriate where expected costs are limited and detailed analysis not cost-effective.
	Sectoral averages (e.g. Germany)	Provides a more accurate estimate of short/medium term costs than an economy-wide average. Avoids the resource cost of surveys or other purpose specific data collection.	Additional complexity in estimation, if several sectors are affected – while the gain in accuracy (vs using an economy-wide average) may be limited.	May improve accuracy where compliance costs fall largely on a particular sector or sectors with atypical wage levels.

Table B.1. Methodological approaches to quantification of compliance costs *(continued)*

Cost	Quantification methods	Advantages	Disadvantages	Indications for use
Direct labour costs: non-wage labour costs	Benchmark (economy-wide) % of direct labour cost (e.g. Victoria)	Simplicity/ease of use. Implicitly ensures that all relevant non-wage labour costs are taken into account.	Limited. May over-estimate costs to some extent where actual non-wage costs are low.	Usable in most circumstances
	Sector-specific estimates	May somewhat increase accuracy where there are significant sector-specific costs (e.g. accommodation allowances in remote areas)	Some increase in complexity and cost of estimation.	Useful where regulations affect a particular sector with unusual cost characteristics.
Overhead costs	Benchmark "% of direct labour cost" (e.g. Victoria)	Simplicity/ease of use. Implicitly ensures that all relevant overheads are taken into account.	May significantly over-estimate costs where actual overheads are low (e.g. small business?)	Appropriate for use in most circumstances due to significant reduction in resource cost and limited loss of precision (due to the limited size and variability of these costs).
	Checklist approach	Enumerating overhead categories s can help to ensure all relevant items are accounted for and enables use of values more appropriate to the specific regulatory circumstance.	Some increase in complexity. Probable need for benchmark percentages to be provided for each category.	May be helpful where there are reasons to believe that overhead costs in the main affected sector are substantially different in size from benchmark estimates.
Materials costs	Process analysis, desk research on product prices.	Limited cost.	Lack of reference to industry limits accuracy. Potential errors large due to high variability of possible cost impacts.	Use should be restricted to contexts in which cost impact is likely to be relatively limited
	Consultation with materials suppliers	Provides better understanding of the nature of available products, hence their ability to comply, as well as cost.	Suppliers may have limited understanding of choices made by producers	
	Survey of affected firms	Responses based on better understanding of effect of regulation on productive processes.	Accuracy may be limited by limited understanding of available alternatives.	Likely to be most useful where larger, more sophisticated firms are affected.

Table B.1. Methodological approaches to quantification of compliance costs *(continued)*

Cost	Quantification methods	Advantages	Disadvantages	Indications for use
Equipment, or capital costs	Full cost approach	Identifies cash expenditures associated with the regulatory requirement.	May over-estimate capital costs if equipment has uses other than facilitating compliance.	Appropriate where capital expenditures are substantially incurred due to regulatory requirements and few economic advantages accrue to firms as a result.
	Percentage allocation of purchase cost	Allows for circumstances in which equipment has functions beyond enabling regulatory compliance (e.g. leads to productivity gains).	Practical difficulties in determining proportion of purchase cost to attribute to regulation.	Appropriate where capital purchases yield significant benefits to business beyond regulatory compliance.
	Standard percentage of purchase cost (e.g. Germany). Capital items are effectively considered as replacements for existing items which are assumed to be ½ depreciated. Hence, only ½ of cost is counted.	Acknowledges that in many cases capital costs will be only partially attributable to regulatory compliance. Is simpler to implement than the variable percentage allocation option suggested above.	Where a capital item is purchased wholly or largely for regulatory compliance purposes, such a discount may not be conceptually justified. Thus, regulatory costs may be under-estimated. Similarly, the cost of newly purchased capital equipment may be significantly greater than the depreciated value of replacement items, again leading to under-estimation of cost.	Potentially suitable in a wide range of cases.
Cost of external services	Averages calculated from survey data gained from affected businesses or other groups (several guidebooks)	If a well-designed survey is used, a high level of accuracy in relation to current costs.	Resource intensive, may yield misleading data if survey is poorly designed. Difficulties in determining the frequency with which costs are incurred.	Likely to be appropriate where these costs are expected to be significant.
	Estimates derived from informal consultation with industry associations, etc.	Can provide a general indication of cost relatively easily.	An indirect source of data, likely to be of variable quality.	Useful where there are strong industry groups or other interlocutors to supply data.

Conducting sensitivity analysis

Worst case/best case

This approach involves first establishing the most likely value of the uncertain variable(s), which is then used as the base case, before identifying the maximum and minimum plausible values of the variable in question. These can be considered to be the best and worst case outcomes.

Scenario analysis

Alternatively, your scenarios may correspond to a number of different possible outcomes – i.e. of external factors affecting the regulations – and assess the impact of each on the costs involved. In this case, the key issue is to identify the plausible scenarios and the impact of each on the key regulatory cost in question. According to the United Kingdom Treasury Green Book:

> *Scenarios should be chosen to draw attention to the major technical, economic and political uncertainties upon which the success of a proposal depends. Considering scenarios needs to be proportionate. It may take the form of asking simple "what if" questions for small and medium sized projects, but extend to creating detailed models of future states of the world for major policies and large programmes. (UK Government, 2003, p. 33)*

Monte Carlo approach

Monte Carlo sensitivity analysis creates a distribution of net benefits by drawing key assumptions or parameter values from a probability distribution. It allows an assessment of the consequences of simultaneous uncertainty about key inputs to be undertaken, and can take account of correlations between these inputs. It involves replacing single entries with probability distributions of possible values for key inputs. The calculation is then repeated a large number of times randomly (using a computer program) to combine different input values selected from the probability distributions specified.

The results consist of a set of probability distributions showing how uncertainties in key inputs might impact on key outcomes. This is considered to be a more robust approach to sensitivity analysis, but care needs to be taken in adopting reasonable and justified assumptions about the probability distributions which have been assumed.

The use of this approach may be appropriate in relation to potentially very costly regulations. However, it is a technically demanding task and will be likely to require you to take advice from external experts.

Where more than one key cost is subject to uncertainty, it is necessary to present the sensitivity analysis in the form of a matrix table, setting out the cost impacts of different combination scenarios.

When interpreting the results of a sensitivity analysis, the key consideration is the extent of the variation between different possible outcomes that it reveals. If most scenarios yield broadly similar total costs, the result of the analysis can be considered to be robust, however, if a very wide degree of variation exists, there is obviously considerable uncertainty as to potential regulatory costs.

To assist in interpreting the results of the sensitivity analysis, probabilities should be attached to the different scenarios modelled where feasible or, at least, the likelihood that the different outcomes modelled will eventuate should be discussed. This will assist decision-makers to understand how likely it is that regulatory costs will depart substantially from the "base case" estimate adopted.

Notes

1. For some additional detail on these approaches to cost allocation, and related matters, see for example: Government of Victoria (2013), pp. 22-23. For an extended discussion on this issue (though one that is not specifically related to the CCA context) see Productivity Commission (1998), chapters 2 and 3.

2 For a detailed description of how to apply the Standard Cost Model there is a manual on the Standard Cost Model including a step-by-step guide, SCM Network (2006).

3. i.e. 4 times annually for 10 years = 40 repetitions over the timeframe of the analysis.

4. Note that some countries, such as Germany, do not attempt to monetise the value of citizens' time spent on regulatory compliance related activities. Instead, estimates of the total amount of time required to comply are reported.

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