

Occasional Paper Series ♦ 3

# Cost-Benefit Analysis in Financial Regulation

How to do it and how it adds value

Isaac Alfon  
and  
Peter Andrews

# FSA OCCASIONAL PAPERS IN FINANCIAL REGULATION

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# COST-BENEFIT ANALYSIS IN FINANCIAL REGULATION

HOW TO DO IT AND HOW IT ADDS VALUE

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FSA Occasional Paper

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## **Biographical Note**

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## **Abstract**

The proposed contents of the planned Financial Services and Markets Act have been revealed in the draft bill (FSMB) that was published in July 1998 and in various announcements by the Government. On that basis, the Act is expected to require the Financial Services Authority (FSA) to have regard, in discharging its functions, to the economic impacts of the provisions it makes and to publish a cost-benefit analysis (CBA) of proposed rules, evidential provisions or standing guidance of general application. This paper describes the technical and organisational measures that the FSA is taking in order to fulfil the FSMB's requirements for CBA and considers the rationale for those requirements. The paper suggests that the case for undertaking cost-benefit analysis rests on the dangers of interfering in markets without analysing the likely consequences in a rigorous and theoretically sound manner. The paper also reviews the (so far limited) experience of applying cost-benefit analysis to financial regulation in the UK and suggests how difficulties in the assessment of the costs and benefits can be addressed, with a consequent increase in the value of financial regulation.

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## Introduction

These days it is hard to imagine that the many doctors who lived before Hippocrates tended to treat the symptoms of disease rather than the cause. It now seems rather obvious that it is better to find out why a patient's right foot is extremely painful and to treat the cause rather than to impose the costs that would follow from simply cutting off the foot. Moreover, a failure to treat the cause might well mean that the left foot soon becomes extremely painful... Regulation too can address the symptoms or the cause of a problem. For example, an outright product ban or the creation of large barriers to the sale of a product might solve a particular consumer ill, albeit at the cost of reduced consumer choice. Nevertheless, failure to address the cause of that ill, which might be information or incentive problems, is likely to mean that a new product or service will soon create a similar detriment for consumers. Applying economic analysis to financial regulation is the only way of getting to the bottom of these issues. In particular, cost-benefit analysis (CBA) is a practical and rigorous means of identifying, targeting and checking the impacts of regulatory measures on the underlying causes of the ills with which regulators need to deal, those causes being the market failures that in turn may justify regulatory intervention.<sup>1</sup>

The Financial Services Authority (FSA) is taking forward the functions of nine existing UK financial regulators under the proposed new statutory framework set out in the Financial Services and Markets Bill (FSMB) and in various announcements by the Government.<sup>2</sup> This paper describes the proposed statutory requirements for CBA in the FSA, suggests reasons why those requirements might prove to be valuable and outlines the arrangements the FSA is making to fulfil the requirements. In addition, the paper provides a brief introduction to CBA, using examples of published CBA work to suggest that the practical difficulties arising in CBA of financial regulation can be addressed and that CBA can therefore increase the value of financial regulation.

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1 On this, see Llewellyn (1999).

2 This paper refers to the draft of the FSMB available in March 1999.

## 1 Background to CBA in the FSA

CBA is a long-established discipline of applied economics. It has been used by government departments in the UK as an appraisal tool for public expenditure since the early 1960s.<sup>3</sup> Indeed, CBA is not entirely new for financial regulators in the UK: cost-benefit considerations have been a factor in many regulatory decisions. In recent years, regulators have been moving gradually towards a more explicit and systematic assessment of costs and benefits. The then Securities and Investment Board (SIB) established a CBA department in late 1994 to advise on the costs and benefits of regulatory initiatives. At that stage the work was largely ground-breaking and so included the development of cost-benefit techniques for use in financial regulation, as well as some work on the overall costs and benefits of the regulation of UK investment business. For, while there is a considerable body of CBA in many areas, it seems an extraordinary fact that CBA has, with a few honourable exceptions, been little used by financial regulators anywhere in the world.

The SIB's cost-benefit work showed that CBA can provide information useful in regulatory decision making, as the examples given below demonstrate. The work done was designed to identify the most efficient way forward and demonstrated that CBA is not primarily a de-regulatory tool: its use does not necessarily result in less regulation.

In addition, it is worth stressing that the SIB's experience suggests that CBA can contribute to improving firms' compliance culture in a variety of ways, for example by offering a non-partisan way to discuss regulation,<sup>4</sup> and can enhance in a practical manner the accountability of regulatory agencies.

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3 The first major CBA project in the UK was the study of the M1 motorway. It is also worth mentioning that not all important governmental decisions have been subject to the rigour of CBA. See Henderson (1977) for an analysis of the implications of the absence of CBA.

4 On this, see Alton (1997).



## 2 The requirements and case for CBA in the FSA

The planned FSMB will require the FSA, in discharging its functions in pursuit of its four statutory objectives, to have regard to six other matters, including whether the benefit of its provisions is proportionate to their burden, innovation, the UK's competitive position and the principle that competition should not be impeded unnecessarily. Even if it were not obligatory for the FSA to have regard to those matters, it would be difficult to conceive of a sensible case for not doing so. Moreover, it is important to note that, simply by having regard to those matters, the FSA will be undertaking an implicit CBA of its provisions. One can put this point another way: CBA is a useful tool to inform the FSA about the trade-offs it will have to make between its statutory objectives and the economic matters to which it must have regard.

In any case, the FSMB makes a requirement to publish a CBA an intrinsic part of the FSA's mandatory process of consultation.<sup>5</sup> Thus it is envisaged that CBA will play an important role in the arrangements for ensuring the accountability of the FSA. The broad thrust of the requirement is that the FSA should publish an estimate of the costs and an analysis of the benefits of its proposals whenever their impact is likely to be a more than minimal increase in the costs of those affected. The scope of the requirement has been enhanced during the period of consultation following publication of the draft bill, as indicated in a press release by HM Treasury dated 19 January 1999. It now applies to the FSA's rules, evidential provisions, standing guidance of general application and changes made to proposals following consultation. The FSA had in any event already decided to apply CBA more widely than was required in the original draft bill.

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5 See, for example, Clause 85 of the draft FSMB (July 1998), in connection with rules made by the FSA.

An important feature of the proposed statutory requirement for CBA is that it requires estimation of costs but not of benefits.<sup>6</sup> Benefits may be assessed in qualitative terms. This points the way to a pragmatic approach to CBA, and the FSA has adopted one. (The FSA's toolkit for CBA is set out in a later section.) A pragmatic approach is based on the recognition that full quantitative evaluation of costs and benefits is difficult to achieve and often unnecessary. It is usually possible to identify the most cost-effective of the available options by using a combination of qualitative and quantitative information. Quantification of some aspects of costs tends to be straightforward and is a useful discipline for policy makers.

The specific rationale for the proposed cost-benefit requirement in the FSMB lies in the nature of regulation itself. Typically, regulation is a good supplied at no explicit charge by an agency that enjoys a monopoly. Thus there is a risk that the regulation offered will be over-demanded and yet not be the regulation that consumers actually need.<sup>7</sup> At the same time, regulation can have significant impacts on markets and consequently on welfare. For example, it is widely believed that the eurodollar market was created as a result of excessive regulation in the United States.

It is certainly beyond dispute that the consequences of regulatory measures are not necessarily limited to those intended by the regulators. (For example, regulators might create a trade-off between capital requirements and the quality of systems and controls, in the expectation that this will lead to better managed businesses because capital can be costly for firms. Many firms might nevertheless choose to accept an increase in their regulatory capital requirement.) On that basis it is no more than a matter of common sense to try to identify what the principal market impacts of a regulatory proposal are actually likely to be. CBA is an obvious tool to use for that purpose because it is essentially a structured means of summarising

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6 This creates a superficial similarity with cost-effectiveness analysis, which is often distinguished from CBA on the basis that 'no attempt is made to place a monetary value on the beneficial goal' (Jones-Lee (1994), page 297). Jones-Lee also explains, however, that cost-effectiveness analysis is about maximising the extent of achievement of a given beneficial goal within a predetermined budget or minimising the expenditure required to achieve a prespecified goal. The FSA enjoys the simplicity neither of a predetermined budget nor of a prespecified goal. Instead it has four objectives to pursue while having regard to six other matters. Thus it seems that the FSA will need to operate in the complex world of trade-offs, in which CBA is thought by many to be the more appropriate tool.

7 On this, see Llewellyn (1995).

what economic theory suggests are likely to be the consequences of whatever form of intervention is proposed.

A regulator who does not use CBA to help in the formulation of new policy or to check on the impacts of specific measures or of major blocks of the regime runs the risk of delivering a stream of outputs that may reflect the given objectives but lead to unintended inefficiency (because not all relevant factors are taken into account). Thus, for example, a regulator who curtails the freedom of banks in order to promote greater systemic safety but does not consider the wider implications of the measures taken runs a greater risk of imposing the costs associated with a lack of innovation and investment. Likewise, a regulator who liaises extensively with the firms in an industry, so as to propose consumer protection measures that really do protect consumers and are acceptable to the firms, might feel that the proposals would be certain to be cost-effective. A full CBA, however, might show that the agreed proposals would in fact give rise to significant costs in the form of subtle barriers that would deter additional firms from entering the market. Thus regulators can use CBA to help with the potentially difficult task of identifying where sensible co-operation with the industry might extend to an inadvertent bolstering of the position of incumbent firms.

### **3 Making CBA cost-effective – the FSA's approach**

CBA itself is of course not cost-free. On the other hand, it can be structured as an intrinsic part of the overall policy making process. That is the approach of the FSA and it has the advantages of minimising the incremental costs of the CBA and of removing the scope for the institutional conflicts that might otherwise arise between policy analysts and cost-benefit analysts in the areas in which their separate roles would inevitably overlap. As not all of the FSA's policy staff are experienced in economic analysis, a small CBA unit is deployed centrally to advise policy staff on cost-benefit issues and to make available and refine cost-benefit techniques that are appropriate to the context of financial regulation. To keep the cost-benefit work as simple as possible, the core technique set out in the FSA's guide to CBA, 'Practical Cost-Benefit Analysis for Financial Regulators',<sup>8</sup> is option compari-

son. (In practice regulators spend their time choosing between available options rather than designing a complex model of the markets.) Under this approach, regulatory options are compared only to the extent necessary to determine which of them is most likely to yield the greatest excess of benefits over costs and, typically, no more work is undertaken than is necessary to establish that the prospects of the favoured option or options not being cost-effective are small. The work needs to include an estimate of the costs of any options proposed in a consultation, as that is part of the FSA's expected statutory obligation.

## 4 Problems with CBA

The FSA has stated that its use of CBA will go beyond the statutory minimum proposed in the published draft FSMB. Thus, for example, the FSA will seek to identify the costs and benefits of proposed deregulatory measures. This statement reflects an intention to identify and mould the actual impacts of regulatory measures, and a conviction that it is possible to do so to a useful degree, but it does not mean that the FSA has developed solutions to the well-known problems of CBA. These fall in two categories: conceptual problems and practical problems.

The main conceptual problem is that satisfactory CBA is difficult to achieve within any given sector, given that optimum conditions do not obtain in the rest of the economy. Under these 'second best' conditions, it is not certain that an improvement in one sector would make the country as a whole better off,<sup>9</sup> for example because market valuations of resources may be unreliable. Also, consumers are rarely able to optimise in the light of complete knowledge of all the opportunities open to them. A further important point is the necessary simplification of the dynamic market process in the 'before' and 'after' approach of comparative static analysis.

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8 This guide has benefited from the policy development guidelines prepared for UK Government Departments by the Better Regulation Unit (Better Regulation Unit (1998)).

9 Note that the FSA's objectives do not extend to the economy as a whole.

This does not, however, mean that the best course would be to fail altogether to deploy the techniques of economic analysis. The common sense case for arming oneself with the best information the context permits has been powerfully stated: '...we rely on the political system to serve as a check on the broad allocative decisions that arise from the market... Within those broad parameters, analysts may come up with specific programs or policies that suboptimize... The greatest danger is to fall back on the foolish priority of either doing 'nothing' or doing 'anything'. Such a strategy is as sensible as conceding a chess game because you are unable to deduce the optimal strategy. Of course, it would be nice to know the best thing to do; failing that, do your reasoned best!'<sup>10</sup>

It is beyond the scope of this paper to air the various theoretical criticisms of CBA and how each criticism can be addressed in practice. In any case there are a number of texts that already include such material. (Chapter two of Pearce and Nash (1981) is an interesting example.)

The practical problems arise because of the context within which CBA is used. Typically, the main problem is lack of data. This is partly the result of the difficulties that arise in the identification of compliance costs. (On this, see the section in this paper on the costs of financial regulation.) These difficulties should not be underestimated but can often be overcome, as some of the examples below will show.<sup>11</sup> The lack of readily available data on compliance costs might sometimes result from a perception that these costs are overheads entirely outside management's control. Other examples of practical problems are the complexities of markets and the pervasive influence of value judgements.

These practical problems need to be addressed regardless of the techniques deployed in the creation of regulatory policy. Likewise the uncertainties that exist in the second best world are uncertainties that affect decision making regardless of the techniques used. In considering the value of CBA, it is vital to focus on CBA itself and not to reflect onto it problems that are not inherent in the technique itself.

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10 Friedman (1985), page 423. A more aggressive statement of the same broad idea is the well-known dictum that in practical economics the theory of the second best is the first resort of the scoundrel!

11 For a description of how in practice to overcome lack of data on compliance costs, see Franks, Schaefer and Staunton (1998).

Another important point, which suggests that the impact of the above problems will not always be severe within the FSA, is that the FSA will deploy a range of policy making techniques in addition to CBA. CBA will not supplant policy judgement; it will merely provide important information to which the FSA will have regard in reaching decisions likely to further its objectives (which do not include economic efficiency).

## 5 CBA's analytical framework

How CBA is done sometimes remains unclear. This section and the next describe the elements of a practical CBA.

CBA's analytical framework has three main elements. These reflect the overall purpose of CBA, which has been described as to 'provide guidance to policy-makers in the evaluation of actual policies in real markets using available data and reasonable techniques'.<sup>12</sup> This kind of analysis should indicate the most efficient way forward, regardless of whether that involves more or less regulation. In some cases, evaluation of a policy might be facilitated by applying distributional weights to the costs and benefits.<sup>13</sup>

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12 Brown and Jackson (1990), page 223.

13 There are two broad approaches to the monetary values derived in a CBA. One is to deal with distributional issues within the CBA, for example by giving £1 in the hands of a pensioner a weight, say, twice as great as the weight given to £1 in the hands of a firm. In that case a measure which cost firms £2 million and delivered benefits of £1 million to pensioners would be considered to have a net cost-benefit balance of zero. The other approach is not to apply weights within the CBA. In this case one could assume that the distribution of income is optimised by government through the tax-benefit system (i.e. that the marginal utility of £1 is made equal for all consumers). (Alternatively, one could choose to interpret the unadjusted results of the CBA in the light of specific distributional considerations.) Appendix 9A in Ng (1983) sets out a range of arguments designed to establish that the better approach is not to use weights: 'A Dollar is a Dollar'. For a recent analysis of distributional weights, see Vaughan (1999).

The first element is a description of the difference between the world as it would be if a proposed option were adopted and the situation if it were *not* adopted. CBA therefore focuses on the incremental impact of the proposed options. Where possible, the list of options should include the 'do-nothing' option. This approach can also be applied to the analysis of existing regulatory measures. The status quo would be their continuation; an alternative option would be their removal (as in the CBA of cooling-off for non-life products<sup>14</sup>).

The second is the identification and preliminary assessment of the economic benefits and costs that would result from each option. The purpose is to distinguish between those options which seem likely to be cost-effective and those which do not. The latter might be discarded at this stage. One should start with a qualitative analysis of the costs and benefits of the various options and thereby identify the key impacts. In some cases, this might suffice to reveal the option that is dominant in cost-benefit terms. In other cases, it might be necessary to proceed to (limited) quantification to reject one or more of the options. It is important to bear in mind that there are few costs (or benefits) that can be quantified in money terms with absolute certainty and few benefits (or costs) for which some kind of quantitative estimate cannot be produced. As CBA can be based on option comparison, limited quantitative data need not be an insurmountable problem.

The third element of the framework is determining, for the option or options still under consideration, whether the expected economic benefits really exceed the expected costs. It may be possible to discard certain options where additional quantitative analysis reveals higher costs (or lower benefits) and to rank the remaining options to identify which is the most cost-effective.<sup>15</sup> Bearing in mind that quantification in non-money terms can be very valuable, remaining resources can then be dedicated to establishing whether, and to what extent, the benefits of the most cost-effective option – and of any other options still considered attractive – would exceed its costs. This is crucial because it focuses the research efforts to provide an answer relevant to regulatory decision making. It is also important

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14 SIB (1997).

15 Sometimes costs and benefits would arise in different time periods. It is then necessary to discount the costs and benefits (to the present) to compare them. The proper discount rate to use varies with the circumstances but HM Treasury generally recommends using 8% for commercial purposes.

from an accountability perspective because it can indicate when regulation is a product with added value.

## **6 The FSA's toolkit for CBA**

The FSA has developed the above analytical framework into a practical tool in its internal guide 'Practical Cost-Benefit Analysis for Financial Regulators'. The guide sets out the 'Route 6-6' approach to producing CBAs. It features a six stage process based on a six part impact analysis.

The six stages of the process are:

- 1. Decide upon the scope and depth of the analysis. (How significant is the underlying issue and how many options need to be assessed?)**
- 2. Think through the likely effects of each option, using the six part impact analysis as a prompt and model.**
- 3. Qualitatively compare the effects of the options.**
- 4. Reject options that are clearly inferior to others.**
- 5. Estimate the costs, and assess the benefits (and net benefits) of the remaining options.**
- 6. Provide an output that illustrates the relative advantages, disadvantages and net benefits of the options under consideration (for use in the broader policy making process and in the statutory consultation on proposals).**



The six part impact analysis acts as a catalyst in the process of thinking about the costs and benefits of regulatory proposals. The impact analysis reflects in particular the ways in which regulation can absorb economic resources and affect the amount of consumers' surplus<sup>16</sup> arising in respect of financial products. Thus the six impacts are:

1. **Direct Costs.**  
Designing, monitoring and enforcing regulations requires resources. The value of the extra resources that would be absorbed by the regulatory regime in respect of a proposal is the direct cost of that proposal.
2. **Compliance Costs.**  
Bringing a product or service to market requires resources not only for production but also for complying with regulation. The value of the extra resources (including time) that would be used by firms and/or individuals to comply with a regulatory proposal is known as the compliance cost of that proposal.
3. **Quantity of the good sold.**  
As regulation can affect the costs of bringing a product to market, it can raise or lower prices and so increase or decrease the volume of sales.

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<sup>16</sup> An individual consumer's surplus is the excess of the amount that he or she would have been prepared to pay for the quantity of a good or service he or she purchases over the amount that he or she had to pay for that quantity. This surplus is, of course, difficult to measure.

4. **Quality of the goods offered.**  
A great deal of regulation, especially on the retail side, is designed to improve the quality of products in a market by, for example, mandating minimum standards or impeding the sale of inferior products.
5. **Variety of products offered.**  
By influencing the cost of specific products within a general class, regulation plays a role in determining the variety of the products available in that class.
6. **Efficiency of competition.**  
Regulation plays an important role in determining how firms compete (for example, by affecting the level of entry barriers), and so influences whether competition creates value or wastes resources.

## 7 Assessing the costs of financial regulation

On the basis of the above table of regulatory impacts, the costs of financial regulation can usefully be broken down into three broad categories: direct costs, compliance costs and indirect costs.

Compliance costs are the costs to firms and individuals of those activities required by regulators that would not have been undertaken in the absence of regulation. Thus the term 'compliance costs' as used here refers to the incremental costs of compliance caused by regulation, not to the total cost of activities that happen to contribute to regulatory compliance. Examples of compliance costs include the

costs of any *additional* systems, training, management time and capital required by the regulator.

One of the features of incremental compliance costs is that they depend on views about the activities that would be undertaken in the absence of regulation.<sup>17</sup> Changes made on the introduction of regulations are not necessarily a wholly reliable guide to this because regulated firms often use the opportunity provided by a consultation on regulatory proposals to review procedures in broad business areas. Moreover, even for an individual regulatory measure, it is unlikely that only a single view about its incremental impacts would exist because many firms, competing in service characteristics, may be affected in different ways by the measure. Regulators with an industry background, trade associations and advisors to the industry can play an important role in establishing the extent to which the impacts of a regulatory measure would typically be incremental.

Compliance costs can be assessed in a variety of ways. These include use of a survey questionnaire, as in the CBA of the SIB's proposed custody standards,<sup>18</sup> and reference to existing research and discussions with a sample of firms, as in the CBA of whether to review cases of contracting out of the UK's state earnings-related scheme (SERPS).<sup>19</sup> The assessment of incremental compliance costs is normally one of the main targets of the analysis because direct costs (the costs of the regulatory body) are less likely to increase as a result of a specific regulatory measure. These costs are closely related to the regulator's internal organisation, which can

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17 An extreme view is that *all* costs are incremental and that the costs of *not* regulating are nil. It is important to bear in mind, however, that certain financial and insurance markets feature severe asymmetries of information. Thus, the cost of not regulating could in fact be substantial: a complete market breakdown. This is the lemons (bad second hand cars) paradigm (Akerlof (1970)), which strongly suggests that it is difficult for a market to operate effectively where there is asymmetric information between buyers and sellers and the seller cannot communicate information about quality in a convincing form: such a market tends to feature products of lower price and quality than would otherwise be the case and to contract, potentially to the point of extinction. Note that where a market would never develop or would disappear completely, the impacts of regulation would not be merely incremental. Regulation would in effect create the market by defining the rules for participation.

18 SIB (1996b).

19 SIB (1996a).

be adjusted as needs change. The importance of this distinction is illustrated in Example 1.

**Example 1      The balance between direct costs and the firms' compliance costs\***

In January 1994, the SIB made proposals to enhance product and commission disclosure in life assurance. The assessment of the proposals identified that the institutional costs would not exceed £1m whereas firms' *incremental* compliance costs were estimated at £100m per annum.

\* NERA (1994).

The focus on incremental compliance costs reveals the potentially large difference between a regulator seeking to impose 'best' rather than 'good' practice on an industry. Many firms are likely to follow good practice and so would suffer no incremental compliance costs when a regulator sets good practice as the minimum standard. Comparatively few firms tend to follow best practice, with the result that its incremental costs are far greater.

The indirect costs (negative market impacts) are those costs that are least obvious from a cash perspective. They are important but hard to measure and mainly captured in impacts 4. to 6. in the list of impact categories set out above. They include the costs of reduced competition (e.g. the welfare loss associated with increased charges), the costs of imposed uniformity (e.g. the welfare loss associated with foregone purchases or purchases of items that barely meet the purchaser's requirements) and the costs of moral hazard (e.g. the cost of reckless deposit placing caused by compensation schemes that lack an element of self-insurance). This is an area where lateral thinking can be important and Example 2 illustrates this.

**Example 2      Assessing indirect costs\***

There were concerns that extending the scope of the UK regulatory system to include the provision of custody services would impose a barrier to entry into 'institutional' custody, with a consequent adverse effect on the efficiency of competition. Published data on firms' budgets for information technology were identified. These data supported the view that a far larger deterrent to entry was likely to be this cost: the budgeted expenditure for 1995 merely to maintain and upgrade the existing systems averaged about £33 million per firm. In that context, the potential for regulation to be a barrier to entry was not considered to be significant.

\* SIB (1995).

Costs can arise in any of the six impact categories set out above, whereas benefits can arise only in categories 3. to 6. The important consequence is that a regulatory measure will only be cost-effective when its economic benefits exceed its economic costs by more than the sum of the direct and compliance costs. The next section addresses economic benefits.

## **8      Assessing the economic benefits of financial regulation**

One of the aims of financial services regulation is the correction of information asymmetries between buyers and sellers. Success in this provides an economic benefit to firms and consumers. For example, regulation could result both in more consumers rightly choosing to enter the market and in an increased number of

transactions that actually deliver to consumers what they think they are buying. (Those transactions in turn further promote consumer confidence.)<sup>20</sup> Monetary expressions of these economic benefits are the increased surplus associated with additional transactions that are satisfactory to all concerned and the increased added value (GDP) generated.

It is unfortunate that the benefits of regulatory measures have often been described as 'an increase in consumer protection'. This is vague and might have contributed to a climate in which some believe that the economic benefits of financial regulation are almost impossible to estimate and that, therefore, CBA is unlikely to be successful. This view is normally expressed about the assessment of the regulatory system as a whole. Our experience of the difficulties in assessing the economic benefits of *specific* regulatory measures indicates these can be successfully addressed (see below). Some of the issues that arise in the assessment of the overall economic benefits of regulation, such as the definition of the counterfactual and the aggregation of the economic benefits, do not necessarily arise in respect of specific regulatory measures. In focusing on individual measures, however, it is important not to bring into account benefits already secured by other aspects of the regulatory regime.

Reference to the list of impact categories, in particular impacts 4. to 6., should usually help to identify the benefits of any given measure. Their identification, together with an assessment of their significance, is the aim of the qualitative analysis of benefits.

Approaches that can act as a catalyst in the process of using impact categories 3. to 6. to think through the likely benefits of regulatory proposals include:

- a risk assessment; this would include identifying and assessing the seriousness of the specific areas where detriment to consumers and firms is likely to arise;<sup>21</sup> the economic benefits can then be identified as the impact of the policy on the different risks identified;

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20 This is another application of the lemons' paradigm. See note 17 above.

21 On this, see London Economics (1997).

- use of a standard set of attributes to characterise regulatory measures; the following set, which can be applied both to investors and firms, has been suggested: access, choice, information, redress, equity and safety; this was used in the CBA of the custody standards;<sup>22</sup> in addition, a score can be assigned to each attribute and a composite score derived for each measure; this enables the measures to be graded in a non-monetary form as an alternative to monetary quantification of the benefits.

Sometimes it may be possible to assess the economic benefits in a quantitative form, as in the case of capital adequacy requirements for financial firms. The economic benefit is a reduction in the likelihood of a failure of the financial system (which is achieved through making it less likely that individual firms will fail). This economic benefit can be assessed on an absolute or on a comparative basis. It is of course extremely difficult to measure on an absolute basis (as are some of the associated costs, such as possible reductions in innovation and distortions in capital markets). An example of comparative assessment is the FSA's favoured approach noted above: option comparison, which can provide useful figures even in the context of capital adequacy. For example, one can compare different methods of calculating firms' capital requirements by using firms' actual portfolios and historical price movements affecting those portfolios to simulate trading losses and capital requirements under the various methods. This allows one to rank the economic benefits of the different methods, using the proportion of predictable losses that would be covered under each method as the indicator of the likelihood of firms failing.

This approach was used successfully in the context of discussions about amending the Capital Adequacy Directive to require that commodity firms take account of market risks. The proposals allowed firms to use either the Maturity Ladder (ML) method or the Value-at-Risk (VaR) method. UK regulators proposed that commodity firms should also be allowed to use an Expanded Maturity Ladder (EML) method.<sup>23</sup> A CBA showed that the EML method would deliver an economic benefit as large as that of VaR and larger than that of ML, while being less expensive to

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22 See note above 18 above.

23 Market risk varies across types of commodities. The ML method calculates capital requirements by reference to the volatility of only one, relatively volatile, commodity, namely oil. The EML method modifies the ML to allow firms to calculate their capital requirements based upon the types of commodities that they actually trade.

implement than VaR and requiring less capital than ML. Thus the data showed EML to be the dominant option (where a VaR model is not already available).

There are also circumstances in which a monetary expression of the economic benefits of regulatory measures can be derived. In general terms, the economic benefit to consumers of regulatory measures is an increase in the consumers' surplus. This is the excess of the amount consumers would be willing to pay for the regulatory measure over the amount they have to pay for it. Usually, it is safe to assume that the amount they have to pay for the measure is, in aggregate, approximately equal to the cost of the measure imposed on firms. Sometimes this can be directly estimated, as in Example 3 below.

**Example 3      Measuring economic benefits through consumers' surplus\***

A questionnaire for private investors was issued with the SIB's Consultative Paper on Custody. This questionnaire was sent, with an explanatory note about the SIB's proposed standards, to a small sample of investors. The questionnaire asked them how much they were willing to pay for the increased protection that the standards aimed to provide. For a portfolio worth £10,000, responses received indicated that the typical investor was willing to pay no more than £1 per annum. An estimate of the total willingness to pay was derived on the basis of the value of the total assets in custody, £1,037 billion, and on the assumption that willingness to pay was proportional to the portfolio. Thus investors' valuation of the economic benefits of the proposed standards was estimated at about £104m per annum. The cost of the proposed standards was estimated to be about £20m per annum. Thus the consumers' surplus associated with the standards was put at about £80m per annum.



Note that it is vital to assess the credibility of survey responses of this kind, for example through the use of revealed preference or any available independent data. Revealed preference (what one can deduce about an individual's preferences or valuations from their behaviour) can sometimes be used to check whether the figures given in the responses reflect what the respondents actually want. One can also include in the original questionnaire questions designed to uncover investors' relevant concerns and then check that the valuations given by respondents are consistent with these.

\* SIB (1996b).

The concept of consumers' surplus can also be used to measure the economic benefits of regulatory measures that protect consumers by enhancing competition in the industry because regulation targets (or ought only to target!) markets that are not perfectly competitive. In the case of financial services, market imperfections may mean that the firms can charge above normal prices and this can lead to a waste of resources from the perspective of the economy as a whole.<sup>24</sup> Under those circumstances, a transfer of resources from suppliers to consumers can properly be regarded as a benefit, to the extent that it reflects a reduction in above normal prices, because it should result in a more efficient overall use of resources in the economy. (This is similar to the case of a monopolist where the extra profits are dissipated in the pursuit of the enormous profits that might be available to a unique supplier.)<sup>25</sup> Such an analysis underpins the calculations made by National Economic Research Associates (NERA) for the SIB of some of the benefits of enhanced competition that were expected to result from enhanced disclosure in life assurance – see Example 4 below.

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24 See, for example, Murthi, Orszag and Orszag (1999).

25 Tirole (1988).

**Example 4**

**Measuring the economic benefits of regulatory measures that protect consumers by enhancing competition\***

One of the expected benefits to investors of enhanced product and commission disclosure in life assurance was a fall in commissions and charges (i.e. in the cost of investing through life products). This was expected to result in savings for investors. Assuming, for the purposes of the analysis, that the demand for life assurance is not price sensitive, the increase in consumers' surplus would amount to that economic saving. It was then concluded that this economic benefit was, on average and *ceteris paribus*, around £800m per annum during the next 10 years. Note that this is a conservative estimate in the sense that the demand for life assurance is, presumably, price sensitive, with the result that the lowered price might be expected to bring further benefits. It is often the case that simplifying assumptions can be made in CBAs. The only constraint is where simplification would cast doubt on whether one policy option dominates another or on whether a favoured policy option is likely to be cost-effective.

\* See Example 1.

If it is not possible to use willingness to pay as a measure of the economic benefits of a proposal, alternative measures such as an assessment of the amounts that might have been lost (or of the induced change in the probability of loss) can be used. In certain contexts, a further alternative is the application of option pricing theory.

## 9 Conclusions

The central problem of CBA is to identify extremely complex (and to an extent unknowable) interactions within an economy and reduce them to a set of propositions that are simple enough to be readily understood and yet realistic enough to be useful. Thus a successful CBA might be rather like an impressionist painting – much less detailed than a photograph but much more recognisable than an abstract image would be.

The FSA is starting to use CBA to help to deliver its objectives in the manner required by the draft FSMB. The FSA's CBA arrangements, described above, are intended to build on and enhance the SIB's initiative by making CBA an intrinsic part of the policy making process. This reflects both the FSA's own commitment to making regulation cost-effective and the increased emphasis on CBA in the FSMB compared with previous UK legislation on the regulation of financial services. It is too early to determine exactly how successful all this will be but there are grounds for optimism: the FSA's approach is a pragmatic comparison of regulatory options; it is reasonable to suppose that explicit analysis of the likely impacts (costs and benefits) of proposed interventions in markets will enable the FSA to formulate more proportionate measures than would otherwise be the case; and there are already examples, some of which are mentioned in this paper, of CBA providing the information needed to determine and demonstrate whether or not specific policy options are likely to be cost-effective.

The FSA also plans to undertake specific projects, as part of its work on the economics of financial regulation, to assess the overall costs and benefits of financial regulation. In the longer term, it might be possible to identify the genuinely incremental costs and benefits of the overlapping layers of regulation and determine which layers are cost-effective and which of them contribute little to correcting the market failures that exist in UK financial services.

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