

## PERSPECTIVES

# TOWARDS AN ECONOMIC ANALYSIS OF FINANCIAL MARKETS REGULATION?

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**Abstract.** Since the 1980s a number of methods and models were developed to evaluate effects of regulatory interventions in financial markets. Most of them are based on a simple cost-benefit analysis with system stability, system efficiency and stakeholder protection as target function variables. Critical discussions of these models focus on arguments like normative basis, teleological orientation, completeness, methodological aspects etc. A possible answer to this criticism could be a score-card oriented approach, including each a system, process, market and value dimension. Such a model makes it possible to implement different methods and procedures with both a quantitative and qualitative analysis focus in an accumulated way.

## 1. Introduction

Over the recent past, financial industry representatives have often accused financial market regulatory institutions of being far too proactive in their approach. Terms such as ‘over regulation,’ ‘regulatory pressure’ and ‘regulatory burden’ have been coined on many occasions. The additional costs that have been created for in particular smaller institutes by the implementation of additional regulations has now reached a stage where it is seriously obstructing the ability of these institutes to be competitive (BÜHRER et al., 2005; HOFFMANN, 2004; GEIGER and HUBLI, 2004). Yet because neither well-founded analytical concepts nor empirically proven cost-benefit data exists in most countries for evaluating the con-

sequences of regulation, there is little clarity as to when one can actually talk about over regulation and what should actually be subsumed under the term of regulatory impacts. Because of the desire to achieve a more objective discussion on this issue, the regulatory agencies and regulators have been considering whether or not to subject future regulatory measures to a systematic cost and benefit analysis. Those affected would then be able to question critically the results of any such analysis during the consultation process.

The following paper provides a brief overview of the current situation with regards to the spread of cost/benefits analyses in several countries, as well as a critical analysis of the possibilities and limits provided by such a system for determining the consequences of state intervention in the financial markets.

## 2. Why Regulate?

Regardless of their focus, finance-market-related regulation theories start from the basis of an objective function, which derives the efficiency of the regulation from system stability, system efficiency and customer protection elements. There is a normative goal that has overriding importance over the optimization of this objective function. This goal is based on the assumption and justification of a public interest in a functioning financial

market; although in the discussions surrounding this issue there is a great deal of difference when it comes to interpreting what the public interest is and what it is that makes a financial market efficient. To this end, then, it would seem to make a great deal of sense to differentiate between the normative objective of the regulation, which sets down the intended goal, the theoretical *justification*, which explains why the goals set in this way can be achieved through regulatory intervention, and an analysis of the *motives* as to why and how regulations are actually constructed in political and economic practice.

Providing an answer to these questions, in turn, provides the foundations for discussions on the necessity, intensity and the degree to which regulatory intervention actually meets the goals set out. All state intervention in the competitive workings of a financial market in the form of regulations means more costs for those being regulated, which have to be set against the proposed benefits of the regulatory measures proposed. Only in instances where additional regulation actually leads to an improvement in the efficiency of the existing regulatory system can additional regulation be said to improve system efficiency and with it the stability of the system and customer protection issues. In the end, the ability to assess the benefits and costs of regulatory decisions depends on how their objectives, justifications and motivations are defined. Unless these parameters are clear it is pointless to talk about over regulation or gaps in the regulatory framework.

Once these parameters have been made clear, it is possible to evaluate and assess the benefits and costs of an entire regulatory regime or a certain regulatory decision. And it is set against this background that a number of methods and models were developed in a large number of countries during the 1980s with the aim of economically evaluating the effects of regulatory intervention in the financial markets (LAYARD and GLAISTER, 1994, BRENT, 1996, LEVIN and MCEWAN, 2001, WILKE-SCHMIDT, 2004).

The most simple regulatory impact analysis approaches worked by qualitatively recording and descriptively evaluating the effects. More sophisticated models in the form of cost/benefit analyses attempted to evaluate the positive and negative effects using monetary values and to calculate a quantifiable net effect of a given regulatory intervention (or the entire regulatory framework of a given industry) using a simple account balancing approach. To this end, the aim was to record, analyse and evaluate in monetary terms the possible consequences of proposed regulations for stakeholders and for the entire economic system, and to carry out an assessment based on the actual likelihood of these factors occurring. The result is a balance value, which informs *ex ante* or *ex post* those responsible for making the decision about the degree to which a regulation decision is favourable or not.

Although such consequence assessments remain controversial in theory and in practice (see section V below), the European Union took the decision to introduce a multi-stage regulatory consequence assessment system starting in 2003, which was to serve as the core element of a so-called 'better regulation strategy' in all member states by 2005. Experiences from member states such as Ireland, the UK and Holland, which had already implemented similar measures at a domestic level, have been introduced into subsequent pilot projects. Within the framework of a joint initiative on regulatory reform, detailed suggestions as to the development and implementation of assessment systems for determining the consequences of regulatory proposals were made (EU, 2004, 2005). The first pilot projects in 2003 were focused on quantifying cost elements (VIBERT, 2004).

### 3. CBA in Financial Regulation Practice

Cost/benefit analyses such as these are a legal requirement in many countries for new regulatory

projects across a large number of regulatory areas (INTERNATIONAL STUDY, 2003; RADAELLI, 2004; HAHN and LITAN, 2005). Yet while systematic systems for determining the consequences of regulatory proposals might already be implemented in a number of areas, there are still many countries where they are not implemented for regulating financial markets. Even in the European Union, cost/benefit analyses have only been introduced systematically as an additional way of gathering information on the enactment of regulations into a handful of countries so far. And this despite the fact that such measures are actually demanded as part of the 'Better Regulation' system.

That being said, however, a large amount of experience has been made worldwide with different models for determining the consequences of financial regulatory proposals. The UK is without doubt a pioneer in this area. The Securities and Investment Board as far back as 1994 created an institution for systematically carrying out cost/benefit analyses for financial market regulation projects, which were put under the organisational control of the Financial Services Authority (FSA). The Dutch Central Bank also published a model with a strong focus on practical requirements, which has been tried out in several individual pilot projects over the past two years. Within the framework of a large number of impact studies on the effects of Basel II, cost/benefit-related efficiency analyses have also been carried out in a number of countries. Indeed, a number of different commissions and working groups are currently working on finding the answers to problems in this area in Austria, Germany and Switzerland. The EU itself has also repeatedly published efficiency analyses on financial market regulations during the recent past (BRABÄNDER and FAHNENBRUCK, 2005).

In the US a system has been in place since the early 1980s in which a repeatedly proven and refined presidential decree issued in 1981 obliges regulators to carry out an assessment of the con-

sequences of regulatory proposals and have this assessment approved by the Presidential Office of Management and Budget before they are permitted to implement a 'major rule'. As far as the SEC (an independent authority that reports directly to congress) is concerned, however, these decrees have no validity. Nevertheless, with the Office of Economic Analysis, the SEC has created an authority that deals with determining the potential effect of regulatory measures on the competitive situation in financial markets and financial institutions, on the one hand, and smaller and medium-sized companies on the other. Yet for all this, only a few of the regulations enacted each year are actually subjected to a systematic assessment of the consequences. Take the five regulatory impact analyses published by the SEC in 2003 for example. While four did manage to quantify the costs, it was only in a monetary form vis-à-vis the expected benefits (OBM, 2004).

The Australian financial market regulation system also has a systematic impact analysis procedure in place that is based on a cost/benefit model. Since 1997, all governmental institutions have been required to follow the Regulatory Impact Statement Model, developed jointly by the Office of Regulation Review and the Council of Australian Government. This is particularly true for the different institutions involved in regulating the financial markets. In addition to this, because of the public importance of the financial sector, all existing legal requirements also have to be subjected to a systematic cost/benefit analysis at least once every ten years (PRODUCTIVITY COMMISSION, 2003; COAG, 2004). New Zealand uses a similar model. In Canada, the Ontario Securities Commission was responsible for the first regulatory impact analysis trials in 2002; in its final report at the end of 2003 the so-called Regulatory Burden Task Force called for the implementation of systematic regulatory impact analyses for future proposals for regulating the financial markets (REGULATORY BURDEN TASK FORCE, 2003).

#### 4. Elements of a Simple CBA Model

While there might be several differences from country to country, all the cost/benefit analysis models are structured in a similar way. A simple balance system is used which sets out to record the costs and benefits of regulatory intervention in a financial market and compare them against each other. Depending on which model is being used, individual factors are quantified and evaluated based on monetary values.

If we accept, as already mentioned, that we are dealing with a simple set of three objectives vis-à-vis regulation of the financial markets which enjoys a large degree of consent in both theory and practice and which sets out to, one, maximize the resulting impact of the regulation and, two, define system stability, system efficiency and stakeholder protection variables that are influenced by the regulation, we can base a cost/benefit model on the following target functions (BERNET, 2005):

$$W_{REG} = f(S_{SYS}, E_{SYS}, G) \rightarrow \text{opt!}$$

where

$W_{REG}$ : Defines the efficiency of the regulation as a net benefit value of the regulation as a whole or as an isolated regulatory decision.

$S_{SYS}$ : Defined as system stability, which for instance can be expressed as the likelihood of a system crisis. It is influenced by exogenous factors (i.e., shock effects, loss of reputation) and endogenous factors (i.e. solvency of market participants), which, in turn, have a direct or indirect impact on the regulation.

$E_{SYS}$ : Defined as system efficiency, which measures the allocation efficiency reached in the system while taking into account the resources and risk-allocation transaction costs (meaning the search, evaluation, contracting, transaction, monitoring and renegotiation or sanctioning costs). The individual benefits of a market participant

resulting from the regulation also need to be allocated to this variable.

$G$ : Defined as the degree of stakeholder protection achieved, which might be expressed for example by the likelihood of a bank default and the expected level of losses vis-à-vis the weighted risk exposure of the financial institute's own and borrowed funds financiers.

It becomes immediately clear that while on the one hand the three determining factors for regulation efficiency mutually strengthen each other (such as when higher system efficiency increases the stability of the system), they can also find themselves in a conflicting relationship to each other (such as when higher system stability achieved through strengthened regulation increases transaction costs and reduces system efficiency). From a normative regulatory justification perspective,  $\Delta W_{REG}$  is used to demonstrate the change in the likelihood of and the effect of a market failure; advocates of positive regulatory theories would be more likely to interpret this value as a change in the economic, social or political position of stakeholders in the financial intermediation system.

As far as simple cost/benefit models are concerned, the presumption is that only regulatory measures with a positive net effect should be implemented. Net effect is taken to mean the difference between the sum of the weighted benefits, that is, the cost effects of each measure (or the entire regulatory regime). This allows one to express the fundamental principle of a cost/benefit analysis in the following, albeit extremely simplified, equation:

$$W_{REG} = \frac{\sum_{s=1}^z \sum_{i=1}^n \sum_{j=1}^m \lambda_{sij} \beta_{sij} (N_{sij} - K_{sij})}{(1 + r_{sij})^i}$$

where

- $W_{REG}$ : The efficiency of the regulation defined as a net benefit value of the regulation as a whole or as an isolated regulatory decision.
- $N, K$ : Evaluated benefit and cost effect (expressed, for instance, in monetary units or by using index values)
- $i$ : Year
- $j$ : Benefit or type of costs
- $r$ : Discount factor
- $s$ : Stakeholder category
- $\lambda$ : Weighting factor, which is used to express the political normative components in the weighting of the net benefits
- $\beta$ : Factor, which is used for letting the communication and perception aspects with regard to the competitive situation between different interest groups and pressure groups flow into the weighting of net benefit.

## 5. Critical Perspective

Cost/benefit analysis methods are used in a large number of countries for helping to resolve a wide range of questions and have a long microeconomic and economic tradition. Above all, they are used for assessing the merits of environmental policy, traffic policy and health policy decisions and measures, as well as for assessing regulation in the pharmaceutical, chemical and health industries (SUNSTEIN, 2002). Ultimately, the aim is to scrutinize objectively normative decisions—a desire that is almost unavoidably problematic in some areas. It is set against this background that it is hardly surprising that advocates and opponents of such methods have been involved in long running arguments as to the pros and cons, that is, the possibilities and limits of such methods (see BROMLEY, 1990; HAHN, 2005; Sen, 2005).

In contrast to the areas of regulation mentioned above, which are primarily concerned with protecting human life, regulation of the financial

markets is concerned with other objectives. To this end, then, the assessment criterion for evaluating the cost and benefits of an isolated regulatory measure or for assessing the economic impact of a regulation regime can change. Many of the academic and practice-related articles, regardless of whether they are for or against the systematic implementation of cost/benefit analyses, cannot be transferred to the regulation of financial markets or can only be done so to a limited degree. Here too, however, several central points of criticism need to be taken into consideration for the continuing discussions in this area:

- **Normative basis:** Every cost/benefit analysis is based on an existing system of values that is mostly implicit. Analyses are based on the assumption that a decision is right when its benefits are greater than the costs caused by the decision. Questions concerning the definition of benefit and cost values or evaluating the way in which they are distributed between the stakeholders are usually put to one side. Other benefit categories such as trust and security are just as difficult and almost impossible to measure. So, too, intrinsic values such as freedom of choice, competition and efficiency, which represent core variables in the objective function of financial market regulation.
- **Teleological orientation:** Cost/benefit analyses are geared towards effects, which they then attempt to assess (SEN, 2000). This is justified in the majority of cases. But how does one assess deontological-orientated regulations such as money laundering legislation or the regulatory measures for protecting money belonging to politically exposed persons and institutions? While it is, of course, possible to derive positive effects for the reputation and therefore for the stability of a financial intermediation system, this does not alter the fact that the starting point for regulation is based on a normative decision which assumes that certain behaviour patterns will be assessed as right and good, others as wrong and



bad. As far as this assessment is concerned, it is a function of the cultural environment in which it takes place. In addition to this, it can change with time.

- **Completeness:** The balancing methods on which most cost/benefit models are based assume that all benefit and cost elements can be determined and their effects evaluated. The ability to measure the aspects of the system that are connected (including those that go beyond the financial intermediation system that is directly affected), however, would appear to be very difficult in exactly the same way as it would be to measure the benefit and cost-related consequences. And because different consequences are often possible, a number of impact scenarios could be envisaged, which, in a perfect world, should also be integrated into any impact analysis being carried out. Yet by estimating the likelihood of any one scenario actually taking place, one's integrating again subjective elements into the cost/benefit model.
- **Methodical aspects:** It is also important to take a critical look at the way in which cost/benefit models are implemented in financial markets from a methodical perspective. This begins with 'additive accounting' on which the models are founded. To make things simple, the cost and benefit effects are added up. One side is allocated a positive prefix, the other a negative. Given that it is almost impossible to depict linearly the indifference curves that result from the cost/benefit relationships and that represent economic entities or an entire finance system, these also have to be put to one side in the name of reducing complexity. Another weighty point of criticism is the assumption of intertemporal model-factor consistency. For example, it is possible for priorities to change over time, particularly when the amount of information available on the implications to be expected increases. Another controversial aspect is the discounting of benefit and cost effects. In addition to the points of criticism inherent to all such models, further

considerations also have to be incorporated into the calculations of regulatory impact estimates. While the cost of implementing a new regulatory framework is usually immediate, a certain period of time often has to pass before the associated benefits of such changes can be measured. Discounting these aspects leads to a systematic preponderance of the cost effects. The question as to how to incorporate cost and benefit effects that have been postponed until a later point in time into the considerations is another problem that remains unresolved.

- **Willingness to pay as a value:** The practice of carrying out monetary assessments, particularly with regard to benefit effects, by using willingness to pay of those being regulated as a value is something that both the methodical and the normative aspect have in common. The balancing method implicitly asks what people would be prepared to pay as a maximum value for a particular benefit. Here again, it would hardly be possible to depict, for instance, different indifference curves for larger or smaller banks. Then there is the question as to how to assess a public good, the benefit of which cannot necessarily be given as the sum of the individual effect. And how does one incorporate distribution aspects or differences in the perception of risk or the degree to which stakeholders in a finance intermediation system are inclined to take risks into the assessment?

It is these (and a large number of other) points of criticism that have so far made legislators and regulatory authorities hesitant to implement systematically cost/benefit analyses for new regulatory decrees. And this despite the fact that the parties directly affected by new regulations have been increasingly calling for such a system to be implemented. Yet for all the criticism, it is important to recognize that analysing the economic impact of regulation in financial markets can also bring great benefits, provided they are implemented correctly.

## 6. Scorecard Models for Analysing the Economic Impact of Regulation

The most important positive aspect here is the sensitization of both the regulatory authorities and those being regulated to the cost and benefit effects of the decision being made. Even if it has to be accepted that it will never be possible to evaluate fairly and take into account all the effects possible, attempting to introduce a systematic model and discussing critically the possible effects of the regulation nevertheless contributes to raising the awareness of all stakeholders. In addition to this, experience from other areas of regulation demonstrates that obliging regulators to produce a cost/benefit analysis, regardless of how it is structured, leads to a situation in which both science and practice begin to address the methodical and conceptual issues more closely. This, in turn, leads to positive approaches for reducing the points of criticism mentioned above. At the same time both regulators and the regulated are forced into providing more far-reaching justifications for their decisions or objections.

The core problem of the current discussions concerning the analysis of regulation effects lies in the analysis's one-sided focus models that are rooted in traditional investment analysis methods. These approaches can not satisfactory do justice to the complexity involved in assessing public goods neither in normative nor methodical terms. Indeed, this has already been picked up on by a large number of critics, who regard cost/benefit analyses more as an approach than a specific method (SEN, 2000). Thoughts along the same lines have been taking place for a number of years in connection with the conceptual orientation of strategic controlling or measuring the performance of strategic decisions. Here, too, it's about finding a way to record and assess the performance of a decision in a multidimensional manner. In a way that incorporates and attaches just as much importance to qualitative elements as it does quantitative elements. And it is set against this

background that a series of so-called scorecard models were developed with the aim of understanding the performance of a decision from different perspectives and while taking into account different quantitative and qualitative criterion (MÜLLER-STEWENS and LECHNER, 2005).

Astonishingly, this kind of approach has not been taken up into the methodical discussions on economic regulatory impact assessment systems. Take the Balance Scorecard approach developed by KAPLAN and NORTON (1997) at the beginning of the 1990s which has since been expanded and implemented on a worldwide scale for example. This system offers a large number of approaches for developing and expanding the scope of traditional cost/benefit analyses for finance market regulation (ROOST, 2005). Because both here and in strategic terms it all boils down to assessing over the long term the decisions that restrict the room for manoeuvre for institutions drawing on an objective function that includes quantitative and qualitative aspects. A Balanced Scorecard system of this kind could, for example, depict the following regulatory impact analysis aspects:

- As far as the *system dimension* is concerned, it would enable analysis of the effects on system stability, system efficiency, stakeholder protection, of the structure of the finance intermediation system and of its development and growth etc.
- The *process dimension* would bring together process-cost-related effect analyses (on a full or marginal cost basis) with the complexity of control processes caused by regulation or compliance structures etc.
- The *market dimension*, for example, encompasses competitive structure, competitive intensity, the volume developments of products sold and product differentiation.
- And finally, the *value dimension* analyses the degree to which regulatory decisions actually meet the goals set out for them with regards

to the normative framework of a finance intermediation system and its stakeholders. This can also encompass analysis of the effects of regulatory decisions on the risk perception or risk inclination of those participating in the market.

This list, of course, is only intended as an illustration. Nevertheless, constructing a model based on the Balanced Scorecard method makes it possible to implement very different methods and procedures with both a quantitative and qualitative analysis focus in an accumulated way. More work is needed in this area before a more detailed presentation of such a scorecard model can be presented. Nonetheless, it is already clear that a model of this kind would be able to ease the many points of justifiable criticism associated with traditional cost/benefit models used for regulatory impact analysis purposes, as well as making it possible to make better use of advantages offered from systematically analysing the effect of regulation from an economic perspective.

## 7. Implications for Financial Market Regulation

Nobody believes today that financial markets would function efficiently without regulation. With perhaps the exception of a few certain areas such as the hedge fund market and other markets for specific contract types, hardly any proponents of free banking remain in today's global economy. Financial market regulation focused on the three regulatory objective function elements mentioned at the beginning of this paper is required to establish the kind of competition needed to make sure that financial markets can fulfil their allocation function at a satisfactory level of efficiency. At the same time, however, it is also a possible (although unintentional) effect for regulation to limit this competition substantially and, in turn, to reduce the efficiency of the market to an undesir-

able degree. How and where regulatory intervention in financial markets should take place will remain a controversial issue. Assessing the effects of regulation will remain a function based on the normative determinants of the assessors. Cost/benefit analyses cannot resolve this problem. They do, however, contribute towards increasing the transparency of regulatory processes, demonstrating the way in which effects are connected in a system context and making people aware of the methodical and technical aspects involved in evaluating cost and benefit effects. They force legislators and regulators into providing a justification for additional measures. They can also play an important role in helping those being regulated to recognize certain aspects.

The model criticisms mentioned with regard to other regulatory areas should be taken seriously. Even if these arguments cannot be rebutted, they do not represent a fundamental argument against using cost/benefit analyses for regulatory decisions. Instead they should be seen as a call for the search for more suitable economic impact analysis models. Indeed, for all the criticism they receive, analyses of this kind remain the only way of arriving at a reasonably objective discussion about the desirability of regulatory measures or the efficiency of existing regulatory regimes. The aim should be to make them part of all future consultation processes. Set against this background, then, it is important that the development, implementation and systematic refinement of corresponding methods are promoted and accelerated for financial market regulation.



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