

Occasional Paper Series ♦ 1

The Economic Rationale for Financial Regulation

David Llewellyn

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THE ECONOMIC RATIONALE FOR FINANCIAL REGULATION

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BIOGRAPHICAL NOTE

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Contents

Introduction and Perspectives	5
1 Externalities: Systemic Issues	13
2 Market Imperfections and Failures	21
3 Economies of Scale in Monitoring	23
4 Lemons and Confidence	25
5 The <i>Grid Lock</i> Problem	27
6 Moral Hazard	28
7 Consumer Demand for Regulation	30
8 Mandatory v Voluntary Disclosure	32
9 Financial Products and Contracts are Different	34
10 Wholesale v Retail Business	41
11 Reputation, Competition, Information	42
12 What Game is it?	44
13 Regulation and Competition	46
14 Alternative Approaches to Regulation	48
15 Conclusions and Assessment	50
<i>References</i>	54

Introduction and Perspectives

Describing the challenge of the newly-created Financial Services Authority, the Chairman has argued that, in order to make the new decision-making framework work in practice, and particularly to make sense of the commitment to cost-benefit requirements, 'we shall need a clearer view of the economic case for regulation of financial markets, and a rigorous approach to assessing whether that case is met in relation to a particular set of institutions, or set of products', (Davies, 1999).

The purpose of this paper is to consider the economic rationale for financial regulation: why regulation has welfare benefits, and why it is rational for (particularly retail) consumers of financial services to demand regulation of financial services firms. In this regard the paper has a narrow remit and does not, for instance, consider the various alternative approaches to the regulation of banking and financial services, or the detail of particular regulatory instruments. At various points in the analysis reference is made to a comprehensive critique of financial regulation given by George Benston of Emory University in a recent Institute of Economic Affairs Hobart Paper: *Regulating Financial Markets: A Critique and Some Proposals* (Benston, 1998). This is as fundamental and comprehensive a critique of financial regulation as has been produced, and brings together the various strands of his distinguished and renowned critique which has been developed in the journals over a long period.

Differences between those who judge that there is a positive role and economic rationale for regulation in finance and those who argue that, at best, regulation does not enhance welfare and at worse is counter-productive, centre on four key areas:

- (1) how financial institutions and markets work and operate in practice,
- (2) the incentive structures faced by financial firms,
- (3) the extent of market imperfections and failures in the financial system and the power of regulation and supervision to address them, and
- (4) the extent to which financial products and contracts are significantly different from the generality of goods and services which are not regulated to anywhere near the same degree as financial institutions.

These are some of the issues to be considered in this paper.

Before specifically addressing the economic rationale for regulation in financial services, four general perspectives are offered in order to set the scene. Firstly, a distinction needs to be made between *regulation* (the establishment of specific rules of behaviour), *monitoring* (observing whether the rules are obeyed), and *supervision* (the more general observation of the behaviour of financial firms). Different issues are involved in each, although public debate does not always make the distinction. The case for centralised supervision (based, for instance, on economies of scale) can stand irrespective of the case for externally imposed regulation.

Secondly, regulatory agencies can be viewed as supplying regulatory, monitoring and supervisory services to various stake-holders: financial firms, consumers, government etc. However, complications arise because, unlike most other goods and services, they are not supplied through a market process, but are largely imposed by the regulator even though there may be a process of consultation. This leads to several problems: valuable information is lost about what type and extent of regulation consumers demand, and about how much consumers are prepared to pay for regulation. A problem also arises in that consumers are not homogeneous, and yet their different demands cannot be signalled through a market process. Above all, regulation is largely perceived as being a free good as, absent a market for regulation, no market price is generated.

This leads on to the third perspective: if the perception that regulation is costless is combined with risk-averse regulators, there is an evident danger of regulation being over-demanded by consumers and over-supplied by regulators. A major issue, therefore, is how to guard against such demand- or supply-driven over-regulation. This is a central issue because regulation imposes a range of costs (*institutional, compliance and structural* as outlined in chapter 8 of Goodhart, *et al.*, 1998) which are ultimately reflected in the price of financial services. If regulation is 'excessive' (in that it exceeds what is needed to achieve its limited objectives), or focuses upon inappropriate objectives, avoidable costs are imposed upon society, and these costs might exceed the economic costs that regulation is designed to avoid.

A fourth perspective is that, in the final analysis, regulation is about changing the behaviour of regulated institutions. One of the key questions that arises is the extent to which behaviour is to be altered by way of externally imposed *rules*, or

through creating *incentives* for firms to behave in a particular way. A major issue, therefore, is whether regulation should proceed through externally imposed, prescriptive and detailed rules, or by the regulator creating incentives for appropriate behaviour. Regulation can usefully be seen in terms of a set of contracts. Laws, regulations, and supervisory actions provide incentives for regulated firms to adjust their actions and behaviour, and to control their own risks internally. They can usefully be viewed as *incentive contracts* within a standard principal-agent relationship where the principal is the regulator, and the agent is the regulated firm. Within this general framework, regulation involves a process of creating incentive compatible contracts so that regulated firms have an incentive to behave in a way consistent with the social objectives of systemic stability and investor protection. If incentive contracts are well designed they will induce appropriate behaviour by regulated firms. Conversely, if they are badly constructed and improperly designed, they might fail to reduce systemic risk (and other hazards regulation is designed to avoid), or have undesirable side-effects such as unnecessarily raising the price of financial services. This perspective focuses upon inevitable trade-offs that are central in the design of optimum regulatory arrangements.

The general context

Although we will develop the economic rationale for regulation of financial services, some academic liberals (see, for instance, Dowd, 1996; Benston, 1998; Benston and Kaufman, 1996; Kane, 1997) are sceptical of the benefits of regulation. For a well-balanced assessment, see Herring (1997) and Herring and Litan (1995). There are many alternative strands to the critique: there are no market failures and imperfections; if they do exist they are not sufficiently serious to warrant regulation; regulation may not in practice solve these failures; or if it does, it can do so only by imposing costs that exceed the costs of the original problem; serious moral hazards may arise when regulation is imposed; and regulation imposes a wide range of costs which are paid ultimately by consumers.

Experience suggests, however, that financial systems are prone to periods of instability (Dow, 1996). In recent years, bank failures around the world (see Lindgren *et al.*, 1996) have been common, large and expensive. Some argue that this suggests a case for more effective regulation and supervision. Drage *et al.* (1998) argue that the recent banking crises in Asia have in part been a product of 'the poorly regulated and often distorted financial sectors in these countries'. Llewellyn (1998a)

concludes that three common elements emerge in banking crises: bad incentive structures, weak management and control systems within banks, and poor regulation, monitoring and supervision. Others (e.g. Benston and Kaufman, 1996, and supporters of 'free banking' such as Dowd, 1996) attribute many of these failures and crises to the indirectly malign effects of regulation. It would be a mistake to assume that banking crises are only a feature of relatively less developed or emerging economies. Benink and Llewellyn (1995), for instance, have argued that it was largely a combination of weak regulation, poor supervision and inadequate information disclosure that lay behind the banking crises in Scandinavian countries in the early 1990s.

Objectives v rationale

In the analysis to follow, a distinction is made between the economic rationale for regulation (why it might be justified on economic criteria) and the particular reasons why in practice regulation is imposed. Benston (1998) argues that, in practice, regulation serves the interest of governments, legislators and regulated financial firms ('that is the principal reason financial services regulation was enacted and is continued') but is mostly 'detrimental to most consumers'. He argues in particular that the benefit of regulation to regulated firms has been through reduced competition: 'the benefit to financial services producers from reduced competition is one of the most important modern reasons why governments have imposed regulations on financial services'. It needs to be emphasised, however, that many of the regulatory measures that Benston cites (restrictions on entry, controls over products, restrictions on the allowable business of financial firms, restraints on prices, portfolio restrictions on financial institutions, and restrictions on geographical diversification) do not apply to the United Kingdom, either at all or to any significant extent.

We therefore distinguish between the *objectives* of regulation (what outcome it is trying to secure), the *rationale* for regulation (why regulation is necessary if the objectives are to be achieved), and the *reasons* for regulation (why in practice regulation takes place). The point of these distinctions is to differentiate between the economic rationale of regulation as opposed to why, in practice, regulation might be imposed. Our focus is on the economic rationale for regulation.

The objectives of financial regulation need to be clearly defined and circumscribed, and it should have only a limited range of objectives; more limited than consumers and the media often assume. Although a wider framework might be set by particular regulatory agencies, in the final analysis the three core objectives are:

- (1) to sustain systemic stability,
- (2) to maintain the safety and soundness of financial institutions, and
- (3) to protect the consumer.

However, we need to be clear what it is that the consumer is being protected against. The case for regulation, which also determines its objectives, depends on various market imperfections and failures (especially externalities and asymmetric information) which, in the absence of regulation, produce sub-optimal results and reduce consumer welfare. In other words, the purpose of regulation should be limited to correcting for identified market imperfections and failures.

The economic rationale for regulation

The analysis to follow focuses upon seven components of the economic rationale for regulation and supervision in banking and financial services:

1. Potential systemic problems associated with *externalities* (a particular form of market failure).
2. The correction of other *market imperfections and failures*.
3. The need for *monitoring* of financial firms and the economies of scale that exist in this activity.
4. The need for consumer *confidence* which also has a positive externality.
5. The potential for *Grid Lock*, with associated adverse selection and moral hazard problems.

6. *Moral hazard* associated with the revealed preference of governments to create safety net arrangements: lender of last resort, deposit insurance, and compensation schemes.
7. *Consumer demand* for regulation in order to gain a degree of assurance and lower transactions costs.

Two generic types of regulation and supervision are identified:

- (i) *prudential regulation*, which focuses on the solvency and safety and soundness of financial institutions, and
- (ii) *conduct of business regulation* which focuses on how financial firms conduct business with their customers.

'Consumer protection' issues arise for two main reasons: because an institution where clients hold funds might fail, or because of unsatisfactory conduct of business of a firm with its customers. The failure of a financial firm may have adverse effects on systemic stability, and also cause loss to individual depositors who are regarded as being unable to look after their own interests. The impact of the failure of financial institutions on systemic stability and the interests of consumers means that regulators are almost inevitably bound to have a prudential concern for the liquidity, solvency and riskiness of financial institutions. Such regulation must necessarily focus on institutions *per se*. Conduct of business regulation, on the other hand, focuses upon the functions of financial firms irrespective of the type of firm conducting the business.

Prudential regulation

The case for prudential regulation and supervision of financial firms is that consumers are not in practice in a position to judge the safety and soundness of financial firms. Prudential regulation is necessary because of imperfect consumer information, agency problems associated with the nature of financial institutions' business, and because the behaviour of a financial firm after consumers have dealt with it affects the value of their stake in the firm. No amount of information at the time contracts are signed and purchases made protects against *subsequent* behaviour of the firm. Leaving aside any potential systemic dimension, there is therefore a case for prudential regulation of financial firms when:

- the institution performs a fiduciary role;
- consumers are unable to judge the safety and soundness of institutions at the time purchases or contracts are made;
- post-contract behaviour of the institution determines the value of contracts, and when the institution may become more risky because of a change in its behaviour after a long-term contract has been taken out by customers;
- there is a potential claim on an insurance fund or compensation scheme because the costs of hazardous behaviour of an individual financial firm can be passed on to others (those who in the end pay the compensation). If, for instance, other firms in the industry are required to pay the compensation liabilities of failed institutions (as is the case in the UK) it would be reasonable for these firms to demand certain minimum standards of behaviour which they are unable to enforce themselves without an external agency's intervention.

Conduct of business regulation

Conduct of business regulation and supervision focuses upon how financial firms conduct business with their customers. It focuses upon mandatory information disclosure, the honesty and integrity of firms and their employees, the level of competence of firms supplying financial services and products, fair business practices, the way financial products are marketed, etc. Conduct of business regulation can also establish guidelines for the objectivity of advice, with the aim of minimising those principal-agent problems that can arise when principals (those seeking advice) and agents either do not have equal access to information, or do not have equal expertise to assess it. Overall, conduct of business regulation is designed to establish rules and guidelines about appropriate behaviour and business practices in dealing with customers.

With respect to consumer protection in retail financial services, a useful starting perspective is to ask why a contract might go wrong for a consumer and to focus regulation on these reasons. There are five alternative dimensions to a failed contract:

- (i) the consumer receives bad advice - perhaps because an agency conflict is exploited;
- (ii) the supplying institution becomes insolvent before the contract matures;
- (iii) the contract turns out to be different from what the consumer was anticipating;
- (iv) fraud and misrepresentation; and
- (v) the financial institution has been incompetent.

The key issue is the extent to which regulation can effectively and efficiently address these and reduce the probability of them occurring.

The following sections consider in more detail the seven elements of the economic rationale for regulation in finance identified above.

1 Externalities: Systemic Issues

Regulation for systemic reasons is warranted when the social costs of failure of financial institutions (particularly banks) exceed private costs and such potential social costs are not incorporated in the decision making of the firm. Banks may, therefore, be induced into more risky behaviour than they would if all risks (including those for the system as a whole) were incorporated in their pricing. However, systemic issues do not apply equally (or at all) to all institutions.

Systemic issues have traditionally been central to the regulation of banks based on four main considerations:

- the pivotal position of banks in the financial system, especially in clearing and payments systems;
- the potential systemic dangers resulting from bank runs;
- the nature of bank (debt) contracts on both sides of the balance sheet;
- *adverse selection* and *moral hazard* associated with safety-net arrangements (lender-of-last-resort and deposit insurance).

Banks have a pivotal position in the economy for two main reasons: they are the only source of finance for a large number of borrowers (Bernanke, 1983) and, more importantly, they manage the payments system. If the banking system is placed in jeopardy, the resultant financial disruption is likely to be more serious than would be the case with other sectors of the financial system.

The key systemic point is that banks are potentially subject to runs, which may have contagious effects. The externality is that the failure of an insolvent bank can cause depositors of other banks to withdraw deposits, (see, Diamond and Dybvig, 1983; Baltensperger and Dermine, 1987; Postlewaite and Vives, 1987; Bhattacharya and Jacklin, 1988; Chari and Jagannathan, 1988). This can cause a solvent institution to become insolvent because a large proportion of bank assets are not easily marketable, and because a panic may drive down the current value of those assets which are marketable. In the event of a run, a bank is forced to dispose of assets which, because of asymmetric information problems, cannot be sold at par as

potential buyers (if they exist at all) impose a high risk premium in the purchase price.

The origin of the problem is four-fold. Firstly, banks offer debt contracts for liquid deposits (where the redemption value of the deposit is independent of the performance of the bank or the value of its assets) that finance the acquisition of illiquid assets of uncertain value. Secondly, asymmetric information means that the value of a bank's assets (loans) is based on inside information possessed by the bank (because it manages the borrower's payments account and has a long-term relationship with the customer) that cannot be transferred with credibility in a secondary market or to another institution. Put another way, a bank's assets (loans) are valued more highly on a going-concern basis than on a liquidation or break-up of the bank. In particular, failure or losses of one bank may cause outsiders to revise their view of the value of other banks' assets (Docking *et al.*, 1997; Schoemaker, 1996). The position has been put in this way by Governor Kelly (1997) of the Federal Reserve Board:

It is probably fair to say that there is considerable agreement among central bankers and other economic policy makers that [banks'] unique balance sheet structure creates an inherent potential instability in the banking system. Rumours concerning an individual bank's financial condition [can spread] if the distressed institution is large or prominent; the panic can spread to other banks, with potentially debilitating consequences for the economy as a whole.

Thirdly, depositors know that, in the event of deposit withdrawals, customers are paid on a first-come-first-served basis. If a bank is insolvent, those who withdraw first are paid in full whereas late-comers may not be able to be paid in full. Fourthly, the interconnectedness of banks (e.g. in their gross positions with each other in clearing systems, in inter-bank deposits, etc.) is much greater than that in most other industries, which means that the failure of one bank can directly cause immediate losses to other, interconnected banks. The position has been put in this way: 'There is a distinction to be drawn between a damped shockwave that settles down to a new equilibrium, which is one way of describing a commercial company failure, and a chain reaction that may have a self reinforcing effect, which can be the case with the failure of a bank', (Davies, 1999).

A natural 'market response' to an incipient bank run may, under some circumstances, be to raise interest rates on bank deposits. However, this is usually also

associated with a rise in interest rates on loans which may reduce the bank's yields from its assets because loan defaults may rise. Such an outcome can erode the bank's expected flow of profits. The net effect on the market value of the bank is therefore ambiguous. In addition, a rise in deposit interest rates may be taken to signal a higher probability of the bank failing. There may, therefore, be a need, in these low-frequency but serious events, for a non-market solution.

Three counter-arguments are frequently put against the scenario outlined above, whereby solvent banks are forced into insolvency:

- (1) it is not rational for depositors to withdraw deposits from a solvent bank,
- (2) the existence of deposit insurance in particular removes the rationality of withdrawing deposits from banks, and
- (3) if a run to cash were to occur the systemic problem can easily be handled by the central bank operating as a lender-of-last-resort to the system rather than individual banks: this injection of system-wide liquidity can be done through normal open market operations. These are considered in turn.

(1) Solvent banks

Although the danger of bank runs may be greatly exaggerated in the academic literature, there are nevertheless circumstances where it can be rational for depositors to withdraw funds from solvent banks:

- (i) depositors may not be certain that a bank is in fact solvent;
- (ii) individual depositors may take a rational and informed view themselves but believe other depositors will not: depositors may fear that a solvent bank can be made insolvent by the uninformed action of other depositors;
- (iii) depositors may realise that, given the nature of bank contracts (money-certain and liquid liabilities, but value-uncertain and illiquid assets) a bank can get into difficulty if other depositors run;

- (iv) depositors might take the view that, while the probability of a bank failure is very low, it would nevertheless be very serious to them if it were to occur. If the loss of interest from a temporary encashment of bank deposits is very low, there is only a need for a very low estimate of the probability of a bank failure (in a system without deposit insurance) for encashment to be privately optimal. With risk-aversion, and a relatively high ratio of bank deposits to total wealth, the threshold value of this probability is reduced yet further;
- (v) depositors might not be convinced either that there is a lender of last resort, or that it will operate without friction. This may create uncertainty and impose costs on depositors.

A more general argument is that no-one, least of all uninformed depositors with banks, can distinguish idiosyncratic from general shocks affecting the balance sheet of particular banks. In this context, news arrives discontinuously, and in a staggered fashion. There is, therefore, a formidable signal-extraction problem. It is often the case that stock-market data reveal that bad news for one bank depresses other banks' values also.

All of these factors combine to create a role for regulation on systemic grounds.

Kaufman (1994) and Benston *et al.*(1986) find very little evidence that bank runs cause solvent banks to become insolvent. Benston (1998) notes that at the height of the banking crisis in the United States in the 1930s, although depositors were not then protected by deposit insurance, depositors did not run from solvent banks. Nor did this occur when, in 1984, Continental Illinois Bank was in danger of failing.

There is, however, a particular dimension to this debate that needs to be considered: the risk ν seriousness of the issue. While the probability that the failure of a single bank will induce a systemic problem may be very low, if it were to occur it would be serious, and the costs would be high. Thus, regulation to prevent systemic problems may be viewed as an insurance premium against 'low-probability-high-seriousness' risks. As Greenspan (1996) has argued: 'There will always exist a remote possibility of a chain reaction, a cascading sequence of defaults that will culminate in financial implosion if it is allowed to proceed unchecked'.

(2) Deposit insurance

Benston (1998, and elsewhere) makes the case that bank runs are not rational when deposit insurance is in place. However, this is true only where the coverage is one hundred percent, which is not the case in the UK or in Europe generally. The dilemma is that if coverage is total, a moral hazard emerges: banks may be induced to take more risks and operate with less capital, and depositors might rationally seek high-risk banks as they receive a higher rate of interest in the event that the bank remains solvent but are compensated if the bank fails. On the other hand, if coverage is limited, the incentive in some circumstances for bank runs remains. The two cases are fundamentally different. While the existence of deposit insurance reduces the loss in the event of a bank failure, if, in order to remove or limit the moral hazard, the cover is less than total, it is still rational to withdraw deposits if the bank is perceived as being vulnerable. This is because a failure still involves some loss (the co-insurance component of deposit protection). The current arrangement in the UK establishes a limit of £20K with co-insurance of 10 percent. Thus, the general position with respect to the potential for bank runs is different in the case where deposit insurance cover exists but is less than one hundred percent, compared with when coverage is total.

Even when deposit insurance (or other compensation) is available, there are still problems for consumers: it can take time before redress is made, it may be perceived as uncertain by depositors, others pay (ultimately other consumers, as compensation payments in one way or another will ultimately be reflected in prices), and it is itself a costly activity. In other words, deposit insurance is not frictionless.

(3) Lender of last resort

With respect to the role of the central bank in responding to bank-runs by injecting system-wide liquidity, while the active use of a lender-of-last-resort (LLR) can prevent systemic problems (i.e. solvent banks being made insolvent by deposit runs) there are costs and uncertainties attached to its use. Benston and others assume that the use of the LLR facility is costless and frictionless, and does not cause costly uncertainty to emerge. In this respect, a case for regulation can be made in terms of reducing the probability of the costs (and alleviating uncertainty) associated with the use of the LLR ever emerging. There is also a moral hazard associated with the existence of a lender-of-last-resort: banks may be induced into

more risky activity, and risk-taking may be subsidised as the appropriate risk-premium is not reflected in deposit interest rates as depositors believe banks will always be rescued. This moral hazard is itself a rationale for regulation.

In principle, the lender-of-last-resort facility should be applied only to solvent but illiquid banks. However, it is in practice a blunt instrument and cannot, at the time it is used, and with incomplete information possessed by the central bank, always discriminate between fundamentally sound but illiquid banks and those that are in truth insolvent.

Prudential regulation

There is also a case for prudential regulation (i.e. for safety and soundness by reducing the probability of banks failing) which is independent of any *systemic* dimension. There are costs associated with bank failures which are different from systemic costs. In the absence of one hundred percent deposit insurance, depositors lose if a bank fails quite apart from any externalities involved. Bank failures can also create a degree of uncertainty which is higher than when other firms fail, though this is not to deny that there are costs associated with the failure of other (non-bank and non-financial) firms. In addition, it is difficult in practice for consumers to make judgements about the security of their banks: lack of relevant information, inability to assess the information that is available, and the transactions costs involved in doing so. In addition, even if consumers were able to make informed judgements on the basis of available information, the experience of Barings indicates that the financial position of a bank that is engaged in significant derivatives trading can be transformed in a very short period of time. There is also the standard argument that, as competition becomes more intense, the value of bank charters is eroded, and this may induce hazardous and risky behaviour.

Benston (1998) and others argue that the failure of any firm can cause disruption to consumers, and to this extent banks are not unique. However, it is seldom the case that the failure of non-financial firms is as disruptive as with (most especially large) banks. There are several reasons for this:

- (i) the amounts involved with financial firms are often greater;

- (ii) in case of a failure of non-financial firms, the consumer still has the product that was bought;
- (iii) the product purchased from a non-financial firm declines in value over time and hence the net replacement cost is reduced over time, whereas the value of many financial products not only rises over time, but the original purchase was made on this assumption;
- (iv) there are problems of information transfers with financial firms, and hence transfers of accounts to other banks is not frictionless or costless;
- (v) financial firms are often involved in long-term relationships with customers as opposed to one-off purchases with non-financial firms;
- (vi) the financial firm often has a fiduciary commitment to the customer; and
- (vii) most (though not all) failures of non-financial companies have little impact on consumers.

These are part of a general case made in a later section that financial products, contracts and services are significantly different from most others though, as noted in the later section, there is a spectrum rather than a clear dividing line between financial and non-financial products and services. Therefore, if there is a case for regulation and supervision to reduce the probability of financial firms failing, this does not have to be extended to all firms. Similarly, the fact that no-one would argue for regulation with respect to solvency risks for most non-financial firms, does not in itself undermine the case for such regulation for financial firms. This debate centres crucially on the degree and nature of differences between financial and non-financial products and services. It is for this reason that the issue is discussed in more detail in a later section.

Benston (1998) argues that bank failures are not necessarily costly as business can easily be transferred to other banks. The argument is that this is easily facilitated because homogeneous products are involved. However, there are costs associated with even temporary interruptions to credit flows, and there are costs involved in breaking down relationships based on information about borrowers that are difficult to transfer to other banks. Slovin *et al.* (1993) found that when

Continental Illinois failed there were large negative wealth effects for firms who were borrowers.

Non-bank financial firms

The analysis of this section has focused on the systemic rationale for the prudential regulation and supervision of banks. As banks and other financial firms have diversified their business structures, the traditional distinctions between banks and non-bank financial institutions have become blurred, and to some extent anachronistic. Nevertheless, and while recognising this point, in general the issues involved in the prudential regulation of non-banking financial institutions are different from those related to banks:

- systemic risk is considerably less evident than in banking (and often does not exist at all);
- contagion is less likely because of the nature of the contracts involved;
- the potential disruption of the payments system does not arise;
- so long as there is no perceived lender-of-last-resort, problems of moral hazard do not arise;
- securities firms, for instance, hold liquid assets that can be rapidly traded in (often liquid) secondary markets. The time-scale of adjustment to balance sheet positions is also much shorter for securities firms than for banks. Securities firms have substantial asset turnover through their market-making, underwriting and regular trading activities. They also tend to take a short-term time horizon in their investment strategy. Banks, on the other hand, have long-term commitments to their customers and are less able to adjust their balance sheets quickly in response to adverse developments;
- banks rely on potentially volatile, unsecured short-term deposits for the bulk of their funding, whereas most other financial institutions have a much higher proportion of long-term funding;

- insurance companies have the reverse type of maturity transformation compared with banks: marketable assets (hence liquid) and long-term liabilities (Dale, 1996);
- as the assets of most non-bank financial institutions consist mainly of marketable securities, their value on a going-concern basis differs little from their value in liquidation.

2 Market Imperfections and Failures

The second economic rationale for financial regulation relates to market imperfections and failures. If financial services were conducted in perfectly competitive markets (i.e. there were no information problems, externalities, conflicts of interest, agency problems etc.) there would be no case for regulation, and any regulation that was imposed would be a net cost to the consumer. *Per contra*, if there are market imperfections and failures but no regulation, the consumer pays a cost because the un-regulated market outcome is sub-optimum. Focusing only upon the accountancy cost of regulation (which can be measured) overstates the true cost of regulation because it does not incorporate the value of the consumer benefit if the effects of market imperfections are alleviated.

The ultimate rationale for regulation designed to protect the consumer is, therefore, to correct for market imperfections or market failures which would compromise consumer welfare in a regulation-free environment. There are many market imperfections and failures in retail financial services which create a rationale for regulation:

- problems of inadequate information on the part of the consumer;
- problems of asymmetric information (consumers are less well informed than are suppliers of financial services);

- agency costs (asymmetric information can be used to exploit the consumer);
- potential principal-agent problems and issues related to conflicts of interest;
- problems of ascertaining quality at the point of purchase;
- imprecise definitions of products and contracts;
- inability of retail consumers to assess the safety and soundness of financial institutions except at inordinate cost;
- consumer under-investment in information and resultant 'free-rider' problems (whereby all consumers assume that others have investigated the safety and integrity of suppliers of financial services);
- because of the technicalities of some financial products, consumers are not all equally equipped to assess quality, etc.

It also the case that the quality of a financial product or contract is multi-dimensional. The consumer needs to observe every moment of the probability distribution of returns, and at every instant between purchase and maturity. There remains the problem of distinguishing bad luck from incompetence, avoidable errors, etc.

Many of the problems in retail investment services and products arise because of the fiduciary role of financial institutions, and because financial contracts (such as life assurance, pensions, etc.) are long-term in nature. This has three implications:

- (1) the consumer is unable to ascertain the quality of a contract at the point of purchase,
- (2) potential moral hazard emerges in that the behaviour of the firm after the point of purchase affects the value of the contract and firms might, under some circumstances, have incentives to behave opportunistically, and
- (3) no amount of information available at the point of purchase can solve this problem.

In a regulation-free environment these considerations impose costs on the consumer. An informed judgement about the purchase of financial products and services cannot be made unless consumers know the true costs of the product, the precise nature of the product or contract, the basis upon which a financial product is offered (e.g. whether the firm is a tied agent or independent adviser), or what the benefit is to an agent (e.g. commission). These are real information costs to the consumer. All of this requires a high degree of information disclosure and consumer understanding in order to make consumers effective in the market place.

The consumer cannot make informed judgements, and hence exercise effective choice in the market place, unless she has all relevant information to inform her judgement about the appropriateness or quality of a financial product or contract. The claim, which is sometimes made against enforced disclosure, that good financial products do not require public information, is no more valid than an argument that good tins of food in supermarkets do not need labels!

The purpose of regulation is not to replace competition but to enhance it and make it effective in the marketplace by offsetting market imperfections which potentially compromise consumer welfare. Regulation and competition are not in conflict. Regulation has the potential to enhance consumer welfare both by reinforcing the degree of competition, and by making it more effective in the marketplace. Information, and therefore disclosure requirements, are an important part of this process. The issue of whether such disclosure should be mandatory or voluntary is addressed in section 8.

3 Economies of Scale in Monitoring

Because of the nature of financial contracts between financial firms and their customers there is a need for continuous monitoring of the behaviour of financial firms. There are several characteristics of some financial products that require a continuous process of monitoring of the suppliers of products: it is often the case that long-term contracts are involved, principal-agent problems can arise, the quality of a financial product cannot be ascertained at the point of purchase, and

there is often a fiduciary role for the financial institution, etc. Above all, the value of a product is determined by the behaviour of the supplier after products have been purchased and contracts committed to. This is particularly significant for long-term contracts, since the consumer is unable to exit at low cost. To some extent it may also apply to bank depositors: although they can exit at low cost, consumers may not have the necessary information to make such a decision.

The question is who is to undertake this necessary monitoring: customers, shareholders, rating agencies, etc. Because most (especially retail) customers are not in practice able to undertake such monitoring, an important role of regulatory agencies is to monitor the behaviour of financial firms on behalf of customers. In effect, consumers delegate the task of monitoring to a regulatory agency, and hence that agency can be viewed as supplying monitoring services to customers of financial firms. This in turn raises the issue of the nature of any perceived implicit contract between the regulator and consumers of financial services. There are strong efficiency reasons for consumers to delegate monitoring and supervision to a specialist agency to act on their behalf as the transactions costs for the consumer are lowered by such delegation. There are potentially substantial economies of scale to be secured through a collective authorisation (via 'fit and proper' criteria), and supervising and monitoring of financial firms.

In the absence of regulation and supervision by a specialist agency, consumers are required to spend time, effort and resources investigating and monitoring firms supplying financial services. This would involve two sets of costs:

- (1) substantial duplication, and hence excessive social costs, as all consumers would be duplicating the same processes, and
- (2) the loss of the economies of scale that are derived through a specialist regulator/supervisor acquiring expertise and establishing effective monitoring systems.

Further, individual consumers do not have power to enforce any requirements on financial institutions, or to call for corrective action.

Overall, delegated monitoring is rational for the consumer. In the absence of such an agency, an intermittent consumer would find investigation and monitoring of firms excessive and 'free-rider' problems are likely to emerge. With such an agency,

consumers in effect delegate to the regulator and supervisor at least some of the monitoring responsibilities and, in the process, reap the benefits of expertise and economies of scale. This is rational and economic as each (intermittent and occasional) consumer is unable to appropriate the full benefits of the costs of supervision when undertaken on an individual basis, as the investment of time and resources is inordinate for small, infrequent purchasers.

4 Lemons and Confidence

A fourth economic rationale for regulation in financial services relates to questions of consumer confidence. The known existence of asymmetric information can, under some circumstances, reduce consumer demand for services and contracts. In a situation where consumers know there are good and bad products or firms but, due to insufficient credible information, are unable to distinguish them at the point of purchase because the quality is revealed only after the lapse of time, the demand for some products may decline. Under some circumstances, and with known asymmetric information features, risk-averse consumers may exit the market altogether. In its extreme form (Akerlof's lemons) the market breaks down completely. This is because the perceived costs of purchasing a low-quality product are valued highly, and consumers may forego the possibility of purchasing what might be a high-quality product because of the high risk and high cost of unwittingly purchasing a poor product. In such a situation, consumers do not purchase products they believe might be beneficial because they are unable to distinguish high and low quality products. In the words of Davies (1999): 'Without regulation to give consumers some independent assurance about the terms on which contracts are offered, the safety of assets which underpin them, and the quality of advice received, saving and investment may be discouraged, again with damaging economic consequences'.

This is a clear cost as consumer welfare is as much compromised by reluctance (because of lack of confidence in the industry) to purchase appropriate products as it is through being mis-sold inappropriate products.

When consumers know there are low-quality products in the market, good products and firms may become tarnished by the generalised reputation of poor products and firms. An additional role of regulation, therefore, is to set *minimum* standards and thereby remove 'lemons' from the market. In this sense, suppliers may also have an interest in regulation which sets minimum standards and enhances confidence in the market. It is not unknown for producers in an industry to welcome regulation if it keeps low-quality producers out of the market.

There is some recent evidence of this in the UK where part of the explanation for the substantial fall in the sales of life assurance and personal pensions products in 1994 and 1995 was the lack of consumer confidence in the industry following a series of scandals and hazardous selling practices. A *Financial Times* editorial in April 1998 put it this way: 'There is an increasing reluctance by customers to take on long-term commitments, and particular concern about standards of selling in personal pensions business'. A similar observation was made in a report of the House of Commons Treasury and Civil Service Committee: 'Nevertheless, the government and the regulatory authorities need to recognise the deep unease felt by many people towards involvement in the financial services industry'.

A third source might be quoted. The Consumer Panel of the PIA argued, in its first Annual Report (PIA Consumer Panel, 1995), that 'The scandal of mis-selling of personal pensions and other well publicised examples of unscrupulous behaviour or poor standards have damaged consumer confidence in the industry... The challenge is to achieve a 'step change' in regulation which will restore public confidence in the retail investment market and individuals' willingness and ability to buy appropriate products'. This conclusion followed on from market research amongst consumers which indicated that: 'The main findings of the research were that confidence in the financial services industry is very low, and that this lack of trust contributes to an unwillingness to invest'. All this seems to indicate an evident consumer demand for regulation (see below).

Although overwhelmingly sceptical about the beneficial role of regulation, Benston (1998) accepts that consumer confidence in financial institutions appears to be greater because they are supervised by government agencies.

5 The *Grid Lock* Problem

Benston (1998) frequently makes the point that firms have a rational interest (reputation, etc.) in not behaving against consumers' interests. However, under some circumstances (where long-term contracts are involved, when value cannot be determined at the point of purchase, where firms adopt a short-term time horizon, etc.) this is an unwarranted conclusion because the firm may gain in the short-term by bad behaviour in the knowledge that the consumer may be unaware of this for some considerable time. It is difficult to interpret recent compliance failures (personal pensions mis-selling, etc.) in terms of the incentive firms have to behave properly with customers.

There are circumstances when, without the intervention of a regulator, a *grid lock* can emerge. This can arise when all firms know how they should behave towards customers but nevertheless adopt hazardous strategies because they secure short-run advantages, and they have no confidence that competitors will not behave hazardously. The detection of hazardous behaviour may occur only in the long run. In such a situation two problems can emerge: *adverse selection* and *moral hazard*. In the former, good firms may be driven out of business by the bad as the latter undercut the former. A firm that behaves better towards its customers than others, and at a cost to itself, may not be able to distinguish itself from others and therefore gain additional business. The moral hazard danger is that good firms are induced to behave badly because they either see bad behaviour in others, or have no assurance that competitors will behave well. In theory, all firms could end up behaving badly and knowingly so because they suspect that this is what their competitors will be doing. Goodhart (1988) also argues that (what is termed here) *grid lock* can occur in bank behaviour as competitive conditions may induce banks to behave in line with other banks and incur excessive risk in the process.

There is a parallel here with the so-called 'Tragedy of the Commons', (Hardin, 1968) where, because property rights are not clearly defined, no-one has a private interest in behaving in the interests of the collective good. Thus, in the absence of regulation, fish stocks are depleted to dangerously low levels as each trawler owner has a private interest in fishing as much as he can except that, when all behave in this way, fish stocks are depleted to the extent that everyone loses. These situations frequently call forth regulatory intervention of one sort or another as reliance cannot be placed on private behaviour for the collective good.

There is a substantial literature demonstrating that banks are often subject to herd behaviour which can, under some circumstances, be rational. In particular, absent perfect information about future outcomes of current behaviour, it can be rational for a risk-averse manager to follow the behaviour of other banks. The reward structure might be that, if he does not follow others and this proves to be a mistake, he receives blame, whereas if he follows the herd and this proves to be a mistake, there is a defence that all banks were subject to a systemic error. As a result of this, pressure on bank management to conform to peer-group pressure may be more powerful than the pressure to invest in reputation for honesty, quality and prudence. There are many examples of such behaviour around the world and, in some cases, they have preceded bank crises.

The same arguments can be applied to other types of financial firm and to conduct of business activity. There is some evidence for *grid lock*, for instance, in the personal pensions mis-selling episode. Salespeople were remunerated largely on the basis of the number of sales made even though this meant (and salespeople in some cases knew that it meant) that inappropriate policies were being sold to confused or misled consumers.

One role for regulation, therefore, is to set common minimum standards that all firms know will be applied equally to all competitors. These standards might not need to be higher than each firm would agree to, and would willingly accept, if they had confidence that all competitors would accept them. Regulation can have a positive and beneficial effect of breaking a *grid lock* by offering a guarantee that all participants will behave within certain standards. In this respect, regulation does not necessarily apply standards that are regarded as unreasonable by the industry but serves the purpose of breaking the *grid lock*.

6 Moral Hazard

There is also a moral hazard rationale for regulation, linked to 'safety net' arrangements: deposit insurance and lender-of-last-resort. Safety net arrangements create potential moral hazards for both consumers and financial firms. Dowd

(1996), for instance, argues that the existence of a lender-of-last-resort can have *adverse incentive* effects and induce banks into excessive risk-taking. Deposit insurance or protection (even when it is limited as it is in the UK) creates four potential moral hazards. Firstly, consumers may be less careful in the selection of banks and may even seek high-risk institutions on the grounds that, if the bank does not fail they receive the higher rates of interest on offer, and if it does fail compensation will be received. Secondly, the financial firm may be induced to take more risk because depositors are protected in the event that the institution fails. Thirdly, risk is subsidised in that, because of insurance, depositors do not demand an appropriate risk premium in their deposit interest rates. Fourthly, the existence of deposit insurance may induce banks to hold lower levels of capital. There is certainly evidence for each of these in the experience of the Savings and Loans crisis in the United States. The lender-of-last-resort role may also create similar, though perhaps less extensive, moral hazards. Benston and Kaufman (1996) argue that the main justification for the regulation of banks is to counter the negative externalities that result from government-imposed deposit insurance. Others (notably Kane) have emphasised the moral hazard associated with the mis-pricing of deposit insurance.

Moral hazard can also arise in other forms of consumer compensation arrangements, such as the Investors Compensation Scheme (ICS) in the UK. Firstly, the knowledge of a compensation facility may induce consumers to take less care and may, under some circumstances, even induce consumers to gravitate to risky suppliers on the grounds of a one-way-option: if the contract performs well the consumer keeps the proceeds, whereas if the firm becomes insolvent the consumer is compensated. Secondly, the costs of compensation are sometimes transferred to others who are not part of the contract. For instance, if a financial adviser becomes insolvent and is unable to pay compensation that is due to investors, the financial industry as a whole is required to make payments to the ICS. The moral hazard is that behaviour may be adversely affected because the risks can to some extent be passed on to others. Overall, the moral hazard is that, when safety net arrangements are in place, financial firms are able, to some extent, to pass on risks to others, and this may adversely affect their behaviour.

With or without formal deposit insurance, governments protect depositors. This seems to be a fact of life, and no amount of theorising about the hazards involved in this is likely to change the situation. There is no political feasibility that deposit insurance will be removed and so, for purposes of analysis, it is taken as given. It

needs to be asked why this is so while governments do not protect consumers from the failure of non-financial firms. This significant revealed preference cannot be dismissed solely in terms of government self-interest. If there is an insurance scheme (explicit or implicit) there is also a case for the insurer being able to set conditions on the insurance.

The moral hazard rationale for regulation is, therefore, that regulation can be constructed so as to remove the probability that the moral hazard involved with insurance and compensation schemes will be exploited. Moral hazard exists with virtually all insurance contracts (behaviour is likely to change in a way that increases the probability of the insured risk materialising) and private market insurance companies usually take measures to limit the ability of the insured to exploit it. This may take the form of prescriptions to influence the behaviour of the insured.

In addition, it is reasonable that the ultimate payers of compensation (often other firms in the industry) have some say in the behaviour of insured institutions. There is therefore an incentive for good firms to acquiesce in regulation as it prevents bad firms passing on the cost of their mis-behaviour to the rest of the industry.

7 Consumer Demand for Regulation

Given that regulation sometimes fails, and has its own costs and problems, some argue the case for private self-regulation, reinforced by common, commercial and contract law. One rationale for regulation is that public pressure may resist such an alternative. Although there are costs involved, the consumer may demand regulation, supervision and various forms of compensation mechanisms. There is an evident consumer demand for regulation and hence, irrespective of theoretical reasoning, there is a welfare gain to be secured if, within reason, this demand is satisfied.

Consumers may demand a degree of comfort that can only be provided by regulation. There are several reasons why it can be rational for the consumer to demand regulation:

- lower transactions costs for the consumer (e.g. saving costs in investigating the position of financial firms, costly analysis etc.),
- lack of information and ability of consumers to utilise information,
- a demand for a reasonable degree of assurance in transacting with financial firms,
- past experience of bad behaviour by financial firms,
- the value of a contract can be determined by the behaviour and solvency of a financial firm after the contract is signed and product purchased,
- the consumer may be making a substantial commitment in financial transactions,
- a preference for regulation to prevent hazardous behaviour by financial institutions as an alternative to claiming redress after bad behaviour has occurred,
- to secure economies of scale in monitoring,
- depositors at banks might believe, correctly, that at least part of the costs of regulation is an addition to the fixed costs of regulated firms, and that given that entry and exit mechanisms might be blocked or discontinuous, the cost will be absorbed by banks' shareholders.

In some cases, risk-averse consumers might be willing to pay a significant amount if occasional damage experienced in cases without regulation is perceived as being very costly. In effect, a risk-averse consumer may willingly pay a high insurance premium through regulation.

If there is a rational consumer demand for regulation, the consumer would be willing to pay for it. Returning to the second perspective noted at the outset, if

regulatory and supervisory agencies are viewed as supplying regulatory, monitoring and supervisory services, then if there is a rational consumer demand for these services it is economic for them to be supplied. Thus the costs of regulation are not dead-weight costs. However, there is a major limitation to this particular rationale in that, for reasons already argued, the consumer may have an illusion that regulation is a free good in which case demand is distorted. The solution to this problem is that consumers need to be made aware that regulation is supplied at a cost, even if the price cannot be precisely calculated.

8 Mandatory v Voluntary Disclosure

Economists agree that the disclosure of relevant information is an essential ingredient of consumer protection. The question arises, however, whether disclosure should be mandatory, or voluntary. The issue is whether, as some economists argue, firms have an incentive to provide relevant information without being required to do so by a regulatory agency. Benston (1998) argues that mandatory disclosure is not necessary and can be hazardous and against the consumer interest. It is argued that (especially efficient and competitive) companies have an interest in disclosing relevant information to consumers in an open manner: 'Financial service providers have strong incentives to provide potential investors with the information they require, as do the purveyors of other goods and services'. Benston also argues that regulatory agencies are not able to specify universally useful disclosure rules and 'may design rules that keep financial product providers from communicating effectively with consumers'. He suggests that, on balance, mandatory disclosure is more harmful than beneficial.

The fact is, however, that in the UK investment and insurance companies strongly resisted disclosure of companies' costs which meant that consumers were unaware of the full costs of financial products, e.g. life assurance, personal pensions, etc. All the industry volunteered was to disclose the industry average costs. This was anti-competitive both because efficient firms could not demonstrate their superior performance, and because it acted as an entry barrier to more competitive new entrants.

Nor is it necessarily to be expected that firms would voluntarily disclose information as it may encourage price, rather than preferred non-price, competition.

There are three main arguments in favour of mandatory disclosure requirements:

- it eases comparison between alternative products, and hence lowers consumers' transactions costs, if disclosure is made on the same basis by all firms;
- standardised information can help consumers make choices: in this sense, mandatory disclosure has a positive externality;
- the consumer is often uncertain about what is relevant information to demand when complex products are involved.

Benston argues that the costs of mandatory disclosure fall disproportionately on new entrants and hence, to some extent, acts as an entry barrier. The experience of the UK is instructive. It was only after mandatory disclosure of charges was introduced that new entrants (e.g. Virgin Direct) were able to take advantage of their low costs to compete in some retail financial markets.

It is difficult to see how mandatory disclosure would be harmful to consumers unless in some way it prevented or inhibited firms from disclosing more than the stipulated minimum which they would have done in the absence of a mandatory requirement. Conceivably, it could create the impression in some consumers' minds that, because it is mandated, this is all they need to know in order to make a decision about a product or contract.

It is true that regulators do not know what information consumers require as, in some cases, what is relevant is specific to the individual. However, the research and consultation that UK regulators undertake alleviates this to some extent. All that mandatory disclosure does is set out minimum disclosure requirements on a consistent and standardised basis that all firms must adhere to for all retail customers. This does not preclude additional information being given. Indeed, if (as is contended by critics of mandatory disclosure) there is an incentive for firms to supply information, this will remain over and above any minima established by regulation. Mandatory disclosure is in this respect only a problem if it prevents other relevant information being disclosed.

9 Financial Products and Contracts are Different

It was argued earlier that a central issue in the rationale of regulation of financial services is the extent to which financial products, contracts and services are different from many other goods and services which are not regulated to the same degree.

Before considering this issue in some detail, it is instructive to review briefly the general nature of the differences between different types of goods and services, and the parallel issue of transactions costs. This is because it is, in part, the distinguishing nature of financial services and contracts that underlies the case for regulation and supervision by specialist agencies rather than exclusively by consumers and markets. The key issue is how the consumer ascertains quality, and hence value for money and the appropriateness of the product or service being purchased.

Contracts and transactions costs

Adapting the concepts that are applied to non-financial goods and services, a distinction is made between *search*, *experience*, and *credence* quality characteristics. In the case of *search* qualities, these relate to goods and services where the quality can be ascertained at low cost prior to purchase, or where a warranty is attached (Nelson, 1970). Within this category fall the generality of frequently purchased goods and services. The degree of uncertainty with these transactions is low and causes no problems for the consumer. The consumer has confidence in her purchases, although of course this does not mean that quality is guaranteed. Nevertheless, there is a high degree of certainty about quality. With some goods, on the other hand, it is cheaper to evaluate quality through experience rather than search. In the case of such *experience goods*, the quality can be ascertained costlessly (through use) within a reasonable period after purchase. Obvious examples are packaged holidays, restaurant meals, etc. While the element of uncertainty at the point of purchase is clearly higher than in the case of *search* goods, the degree of uncertainty is bounded. The key issue with *experience* goods is whether firms have incentives to supply quality products (Tirole, 1988). *Credence* goods, on the other hand, are those where quality can be ascertained only at some cost after purchase, and in its extreme form might never be fully open to objective evaluation. A frequent characteristic of these goods and services is that the value of the

purchase is either spread over a long period of time, or emerges only after a considerable lapse of time. As noted by Darby and Karni (1973), these goods are often subject to public policy intervention for consumer protection purposes. Many financial products fall into this last category, and it is partly this that creates a case for regulation and supervision.

One of the other characteristics of many financial transactions is that they involve *incomplete contracts*, in that their value is determined in large part by the behaviour of the supplier after the point of purchase. Two obvious examples are where an investment manager (e.g. a pension fund) turns out to be incompetent or even corrupt, and where a financial institution becomes insolvent while having fiduciary commitments to its customers. This leads to the possibility of opportunistic behaviour on the part of the financial firm, i.e. behaviour that is in the institution's interest but clearly against the interest of the investor.

These characteristics lead to a consideration of consumer *transactions costs*, which are the costs the consumer incurs in making purchases, and the actions taken to validate the nature of the contracts purchased or entered into. Although purchases and transactions in all goods and services involve some transactions costs, the characteristics of different types of goods and services will largely dictate the nature and extent of these costs. They generally rise as we move from *search* through *experience* to *credence* goods.

More formally, transactions costs can be divided into *search costs* (information needed in order to search alternative products and their suitability), *bargaining and decision costs* (involved in agreeing precise contract terms), *monitoring costs* (the costs involved in monitoring post-contract behaviour to the extent that it is relevant in determining the ultimate value of a contract), *enforcement costs* (ensuring that contracting parties deliver on the contract), *verification costs* (ascertaining the characteristics of the product and whether, for instance, disclosed information is accurate and complete) and finally, where relevant, *redress costs* (costs involved in securing redress in the event of a contract failure of one sort or another).

Clearly, the higher are transactions costs the more the consumer is likely to be deterred from making a purchase, and the more the consumer would value mechanisms to reduce transactions costs. This in turn introduces the concept of *bounded rationality*, which refers to the limits on the capacity of individual consumers to collect and process information, and to deal with complexity. This suggests that

investors will seek to devise mechanisms to simplify the problem and reduce the number of alternative choices. This may mean that, because the costs prior to making a transaction may be high in some financial products (complex personal pensions arrangements, for example) the consumer may not in fact 'shop around' for best value. Bounded rationality also suggests that it is costly for individuals to contemplate, and assess, every contingency that could arise over the maturity of the contract.

These considerations are relevant to the analysis of financial regulation in two respects: transactions costs (as defined above) are often high for financial services and contracts, and there may be a role for regulation and collective monitoring to reduce these costs, and hence enhance welfare through a more nearly optimal purchase of financial products.

An alternative view

Benston (1998), in his recent monograph, argues at length that, while financial services are regulated more intensely and extensively than other industries, financial products are not in general significantly different from others which are not equally regulated. It is argued that there is nothing special about financial products that warrants regulation which is not applied to other goods and services. Many other products, for instance, are as complex, or more so, than many financial products, and consumers' exposure (in terms of the value of products) is often greater in non-regulated industries than in finance. The main thrust of the argument is that many of the characteristics of financial products that lead some to argue the case for regulation and supervision of financial firms apply equally, if not more so, to other products and industries which are not regulated.

Equally, it is claimed, the main protection for the consumer against hazardous behaviour of firms is the same in finance as other industries: competition, reputation, information disclosure, and legal redress. In principle, an alternative to regulation is for consumers to have access to the courts in the event that they have been adversely affected by bad behaviour. In practice, there are problems with this: it can be costly for consumers; it is uncertain; it is time consuming; and consumers may often feel intimidated from taking such action. For these reasons, the consumer might rationally opt for regulation as an alternative.

Nature of differences between products

In practice, there are significant differences between (some) financial and non-financial services and of a degree that makes a case for regulation in finance which does not apply to other goods and services. These special characteristics include:

- They are often not purchased frequently and hence the consumer has little experience or ability to learn from experience.
- There is no guarantee or warranty attached.
- Faults cannot be rectified.
- If the firm becomes insolvent during the maturity of the contract its value may be lost, which is not the case with most other goods and services.
- Information on reliability is difficult to obtain.
- Value is not immediately clear at the point of purchase: the consumer cannot know if a bad product is being purchased.
- There is a lack of transparency: it is difficult to verify the claims being made by the seller.
- Value is often critically determined by the personal circumstances of the purchaser.
- The value of contracts is determined by the behaviour of suppliers after purchases have been made; this creates the potential for opportunistic behaviour and gives rise to a need for monitoring. No amount of information available at the point of purchase can guard against this potential hazard.
- The consumer's future welfare is often dependent on the performance of the contract: a faulty product can be replaced, while a bad financial contract cannot be surrendered other than at (sometimes substantial) cost.

- The value of a financial contract rises over time whereas the value of other products declines. This lowers the net replacement cost of the latter in the event that, at some time in the future, it needs to be replaced due to a fault.
- The consumer frequently requires advice when purchasing financial products; this gives rise to principal-agent problems.
- The consumer often lacks confidence in making purchases of financial contracts.
- It is often easy for a financial salesperson to conceal relevant information and/or mislead the consumer.
- It is usually difficult to detect misrepresentation at the time of purchase.
- The product cannot be tested ahead of purchase.
- The full cost of the product may not be known at the point of purchase and it can sometimes be concealed from the consumer.
- The purchase often creates a fiduciary relationship with the company which takes on the responsibility of managing the client's investment or savings.
- It may be a long time (if at all) before the consumer is aware of the value and faults of a financial contract. This limits the power of reputation as an assurance of good products. Even if, in the long run, reputation is damaged by bad behaviour, consumer wealth is impaired in the meantime.

These characteristics mean that, in practice, the transactions costs for the consumer in verifying the value of contracts (even when this can be done at all) are high. Because of the nature of the products and contracts, producers can easily mislead the consumer and this may not be detected for many years, and sometimes not until the contract matures, by which time irreparable damage may have been done. In these circumstances, it may not be sufficient to rely on the reputation of the supplier.

In terms of the distinctions made earlier, many financial products and contracts are *credence* goods, with the additional complication compared with most credence goods that the behaviour of suppliers after the product has been sold determines the value of the contract.

Of course, some other products have some of the characteristics outlined above, and hence there is a spectrum of characteristics with different products and services located at different points along the spectrum with various combinations of these characteristics. However, the uniqueness of some financial products, services and contracts is that they combine all or a large number of these characteristics.

All this means that, in some circumstances (including finance), enforceable and monitored regulation (which has a cost attached) can be justified as an alternative to high transactions costs for consumers. Put another way, the costs of regulation should not be compared with a zero cost base but with the costs imposed on the consumer by any alternative to regulation, e.g. monitoring and verification costs.

It is instructive to draw a parallel with another (non-financial) area where regulation applies: hygiene requirements for restaurants. If consumers could rely on competition and suppliers' reputation, and if they have the possibility of investigating a supplier, it could be argued that there is no need to have hygiene regulations for restaurants. However, the transactions costs of verification would be high, and the damage done in the event of a hygiene failure could also be high. This means that the learning process can be expensive. This might also be an example of *grid lock* in that, because careful hygiene is costly for restaurants, competitive pressures may induce restaurants not to have high (possibly undetected) standards because there is no guarantee that competitors will be incurring the same costs. This can lead to *adverse selection* (hygienic restaurants exit the market) and *moral hazard* (good firms are induced to follow the bad behaviour of others).

Table 1 makes a crude attempt at comparing various non-regulatory consumer protection mechanisms for a set of products and services including a personal pension plan. A cross indicates that this protection mechanism does *not* apply. Although this is impressionistic, and there can be dispute about the location of some of the crosses, it is apparent that the number of entries for personal pensions is significantly higher than for other products and services. The second highest is with medical services, where regulation is also deemed to be warranted.

TABLE 1
NON-REGULATORY ROUTES OF CONSUMER PROTECTION

	Personal pension	Package holiday	Groceries	Restaurant	High value consumer durable	Low value goods	Medical services	Dry cleaning	Double glazing	Purchase of car
1 Repeat purchases made	■									
2 Guarantee/warranty	■									
3 Faults can be rectified	■									
4 Reputation of supplier	■	■	■	■	■	■	■	■	■	■
5 Transparency : easy to verify	■									
6 Irrelevance of consumer circumstances	■									
7 Quality easy to verify at point of purchase	■	■							■	
8 Information on reliability	■									
9 Competition available	■									
10 Welfare not critical	■									
11 Difficult to conceal value	■								■	
12 Irrelevance of post-contract behaviour	■	■								
13 Product can be tested	■									
14 Compensation	■	■								■
15 Exchangeability	■		■							■
16 Non-fiduciary	■									
17 The price is known	■									
18 Confidence in purchase	■									
19 Product not lost on insolvency	■	■								
20 Easy to detect misrepresentation	■									
21 Value declines over time	■									
22 Advice not needed	■									
23 Faults soon detected	■									

The general point is that some financial products, contracts and services are significantly different from most others though, as already noted, there is a spectrum rather than a clear dividing line between them. Therefore, if there is a case for regulation to reduce the probability of financial firms failing or behaving badly, this does not have to be extended to all firms. Similarly, the fact that no-one would argue for regulation with respect to solvency risks for most non-financial firms does not undermine the case for such regulation with financial firms.

10 Wholesale v Retail Business

Consumers of financial services are not a homogeneous group, and their requirements for conduct of business regulation (and their willingness to pay the costs of regulation) are also likely to be heterogeneous. It is, therefore, appropriate to have a different regulatory regime for the conduct of business in the retail sector than in wholesale business. In particular, the case for regulating retail business (involving the purchase of financial products, services and contracts by individuals) is considerably stronger than the case for wholesale business. On the other hand, the distinction between wholesale and retail business is less clear-cut in the realm of prudential regulation.

The distinction between wholesale and retail business is not straightforward, and the FSA has suggested an alternative split between counterparties who are market professionals, expert end-users, and retail investors. Nevertheless, in general a distinction needs to be made between retail and wholesale finance. The case for regulation and supervision of retail financial services is more firmly based than for wholesale business:

- there is the standard problem associated with the absence of repeat orders; the small-volume retail customer does not make frequent repeat orders of financial contracts. Two problems arise with this: the consumer has little opportunity to learn from experience, and there may be less incentive for firms to offer quality products;

- problems of asymmetric information are greater at the retail level than in professional wholesale markets; more generally, the suppliers and demanders of financial contracts are considerably less equal in the retail sector than in professional wholesale markets;
- because of the nature of the contracts involved, it is necessary for financial firms to be continuously monitored. However, individuals are not in a position to monitor the behaviour of the supplier of financial contracts;
- a retail consumer may be less able to ascertain the value of a contract at the point of purchase;
- the individual consumer has limited ability and opportunity to acquire the necessary skills to enter into complex financial contracts;
- the purchase of retail financial contracts is often based on advice given by professional advisers, which raises potential principal-agent problems;
- retail consumers are rarely in a position to judge the safety and soundness of financial institutions.

In effect, market imperfections are more pervasive in the retail than in the wholesale sector and, as the ultimate rationale of regulation centres on questions of market imperfections, it is appropriate for retail financial services to be regulated more explicitly than wholesale business.

11 Reputation, Competition, Information

Benston (1998) argues that, as with other products and services, the main protection for consumers of financial services lies in a combination of competition, information disclosure, reputation and legal redress. This is not different from other industries. He argues that '... at low cost consumers can shift their business from suppliers with doubtful reputations to their competitors because similar financial

products are delivered by many firms'. For this reason, he asserts, financial firms have strong incentives to maintain a reputation for honesty and fairness.

There are several reasons for being sceptical about reliance on this. Firstly, as noted earlier, shifting suppliers may not always be a feasible option. Secondly, it may be a long time (if at all) before hazardous behaviour becomes apparent. Thirdly, the consumer may not have sufficient information, or capability to assess information, in order to discriminate between alternative suppliers. Fourthly, in practice the nature of many long-term financial contracts is such that there may be heavy penalties when existing contracts are cancelled ahead of maturity. This is because it is common for the total costs of the contract to be deducted from premiums paid in the first or early years. Also, as already argued, the consumer may be unaware that an inappropriate or weak product has been purchased until it is too late, if at all. In addition, some financial products are not subject to repeat purchase. The consumer is, in any event, left with the problem of being unable to distinguish good from bad suppliers of long-term contracts.

At least in the context of the UK, there are clear facts suggesting that complete reliance cannot be placed on free competition and reputation to offer an acceptable degree of consumer protection in retail financial services. There have been several costly scandals over the past two decades (e.g. Barlow Clowes; mis-selling of personal pensions; Home Income Plans mis-selling), substantial fines have been imposed on some financial institutions, and substantial compensation payments have been paid out by firms. Consumer confidence in the integrity of financial firms has often been low. In addition, financial firms strongly resisted disclosure of even basic information until mandatory disclosure was imposed.

A recent report of the Financial Services Authority (FSA 1997) following an investigation of one of the country's largest insurance and life assurance companies found as follows: 'a deep-seated and long-standing failure in management', and 'a cultural disposition against compliance that filtered through [the firm's] branch offices, their managers and advisers'. The FSA found: 'continuing and persistent breaches across major areas of its business'. The report also suggested that the company had: 'an organisation structure which allowed the cost of its own compliance arrangements to take precedence over the interests of its investors'. A public reprimand was made and the company voluntarily withdrew its entire sales force for re-training.

Reputation, competition, and information disclosure are *necessary* ingredients of consumer protection. The question is whether they are *sufficient* ingredients. It would appear that the consumer cannot rely upon the reputation of financial institutions in the totality of cases. It may be that the reputation effect is too diffuse in long-term contracts because it may take a long time before any fault or misrepresentation is detected. In fact, it may never come to light. The problem is compounded when salespeople are remunerated on the basis of commission, and when movement between companies is high. Both are common in the UK. In addition, there may be systemic bad behaviour (e.g. UK pensions selling). In a recent report, the Consumers Association (1998) argued as follows:

'The information imbalance that has arisen between the consumer and industry has enabled the sale of substandard products which has, in many cases, cost the consumer (and the taxpayer) dear. For example, in the personal pensions mis-selling saga, hundreds of thousands of consumers fell victim to disgraceful sales practices and poor advice... Personal pensions and life products such as endowment plans can pose particular problems because of the hidden penalties for switching, inflexibility and high charges. In many cases it is next to impossible for consumers to work out exactly what the charges are because of the euphemisms and obscure language to disguise charges. All this has meant that there is no real competition in these markets. The lack of transparency means consumers have been unable to compare products, shop around and so in turn exert competitive pressure.'

12 What Game is it?

So far, the discussion has been in terms of the benefits from regulation to be derived by the consumer. In the final analysis this is the ultimate criterion. Nevertheless, the issue arises as to whether regulation simply transfers benefits from one group to another, or whether there are gains to all stakeholders. Put more

formally, it is a question of whether regulation is a negative, zero, or positive sum game. These issues relate to the magnitude and distribution of costs and benefits.

If regulation is a negative sum game, the costs exceed the benefits. However this is a complex calculation because the benefits may be derived by the consumer at the expense of the producer. In effect, economic rents may be transferred from producers to consumers. Overall, however, in a negative sum game the overall costs exceed the consumer benefits. In the case of a zero sum game, the benefits of one group are exactly matched by the costs incurred by others. However, even in a zero sum game, the outcome might be considered beneficial to the extent that the transfer of benefit from the industry to the consumer is the result of the erosion of market imperfections, excessive costs, or monopoly profits.

There is also the possibility that, suitably constructed, regulation can be a positive sum game in either of two senses: both consumers and the industry gain, or that the gains of one group (e.g. consumers) exceed the losses of another (e.g. firms). There are several ways in which the industry might gain from regulation (leaving aside the totally unwarranted benefits that might accrue through raising unjustified entry barriers):

- To the extent that regulation enhances competition and overall efficiency in the industry, it creates a set of markets which overall work more efficiently and through which everyone can gain.
- If consumer confidence in an industry is enhanced through regulation by setting minimum standards, the increased demand for products is beneficial both to the consumer (to the extent that they are no longer deterred from buying what might be desirable and competitive products) and the industry itself.
- Competition is also likely to induce business to shift from the less to the more efficient suppliers which has the effect of increasing the overall efficiency of the industry; in this respect efficient firms have more to gain through regulation.
- To the extent that 'cowboys' are removed, the overall reputation of the industry is enhanced, i.e. regulation removes badly behaving firms from the industry that contaminate the reputation of all firms in the industry.

- A supervisor may perform a 'management consultancy' role to the overall benefit of firms in the industry.
- If a grid lock is broken, regulation benefits the industry to the extent that it guarantees to all firms that what they believe to be appropriate behaviour will also be followed by their competitors.
- In the case of prudential regulation, financial firms' own counterparty risks should be reduced.

This all means that the industry is likely to secure benefits from regulation and that the regulatory process does not have to be antagonistic in nature. The fact that producers can gain does not imply a conspiracy (planned or unplanned) between regulators and the regulated (regulatory capture).

13 Regulation and Competition

Benston (1998) argues with emphasis that one of the major costs of regulation to the consumer, and benefits to regulated institutions, is that it frequently reduces competition. However, when examples are given (limits on bank charters and branching, separation of commercial and investment banking, restrictions on interest rates, etc.) they do not generally apply in the UK context. In a UK context, parallel examples would be barriers (now effectively dismantled) restricting international trade in financial services within the European Union.

Regulation should not impede competition but should enhance it and, by addressing information asymmetries, make it more effective in the market place. Nevertheless, however well-intentioned, regulation has the potential to compromise competition and to condone, if not in some cases endorse, unwarranted entry barriers, restrictive practices, and other anti-competitive mechanisms. Although historically regulation in finance has often been anti-competitive in nature (Llewellyn, 1986), this is not an inherent property of regulation. As there are clear consumer benefits and efficiency gains to be secured through competition, regula-

tion should not be constructed in a way that impairs it. Regulation and competition need not be in conflict: on the contrary, if properly constructed they are complementary. Regulation can also make competition more effective in the market place by, for instance, requiring the disclosure of relevant information that can be used by consumers in making informed choices.

One of the roles of regulation is to authorise or 'licence' suppliers of financial services. In this role there is a case for excluding companies that can not or will not meet certain minimum standards of consumer protection. It is analogous to pollution regulation which excludes some firms from an industry because they cannot afford production techniques that satisfy pollution standards, or car manufacturers that cannot meet minimum safety standards. There need be no difficulty with this concept of an entry barrier.

It is often argued that regulation and competition are in conflict, and that regulation impedes competition. Simpson (1996) also seems to imply that competition and regulation are alternative routes to consumer protection. In many respects regulation *versus* competition is a false dichotomy:

- properly constructed, regulation has the potential to enhance competition;
- disclosure requirements enhance price competition whereas traditionally competition in the life assurance industry has operated via raising costs (e.g. competition in delivery mechanisms etc.);
- disclosure in all its various forms widens the dimensions in which competition operates. There are more areas in which competition operates: contract terms etc.;
- firms are likely to emphasise the competence of their staff and this is likely to develop as part of a competitive strategy;
- disclosure enables the media and financial advisers to focus upon the terms offered in contracts by various suppliers of contracts;

- disclosure is also likely to lead to an unbundling of contracts with the result that there will be increased competition in the various characteristics of contracts;
- given public perceptions, competition could develop in compliance standards.

In the final analysis, effective competition is the major component of consumer protection and the assurance of good products at competitive prices. The purpose of regulation is, therefore, not to displace competitive pressures or market mechanisms, but to correct for market imperfections and failures which produce sub-optimum outcomes and distort consumer choice. To the extent that regulation enhances competition and, through this, efficiency in the industry, it creates a set of markets that work more efficiently and through which consumers gain. Regulation is ultimately designed to reinforce the efficiency of competition and market mechanisms rather than impede them. Providing regulation is properly constructed, it reinforces the efficiency of, rather than detracts from, market mechanisms.

14 Alternative Approaches to Regulation

A regulatory agency such as the Financial Services Authority has a range of available instruments: rules, authorisation, mandatory disclosure requirements, creating appropriate incentives, establishing principles and guidance, monitoring, intervention, sanctions and compensation. A key choice for any financial regulator, as with any policy-maker with multiple objectives, relates to the selection from the various policy instruments available, and the way they are combined to achieve the broad set of objectives. The skill lies not so much in the choice of instruments, but in how they are combined in the overall policy mix. It is not a question, for instance, of rules *versus* principles, but how the full range of instruments are used to create an overall effect. In this regard, much of the debate about regulation is based on false dichotomies. The various instruments can be used in a variety of combinations, and with various degrees of intensity (Llewellyn, 1998b).

Given the economic rationale for financial regulation that has been outlined, the instruments appropriately focus on issues of: information, solvency, competence, integrity, redress, and enhancing competition in the financial services industry. The FSA also has a role in enhancing consumer understanding of financial issues so that they are in a better position to utilise information and make informed judgements.

At the risk of gross over-simplification, there are two general and alternative approaches to regulation. At one end of the spectrum the regulator lays down fairly precise regulatory requirements that are applied to all regulated firms. While there may be limited differentiations within the rules, the presumption is for a high degree of uniformity. At the other end of the spectrum is what has been described elsewhere (Llewellyn, 1996) as *Contract Regulation*. Under this regime, the regulator sets down a clear set of objectives and general principles. It is then for each regulated firm to demonstrate to the regulator how these objectives and principles are to be satisfied by its own chosen procedures. In effect, the regulated firm self-selects its own regulation but within strict constraints set by the objectives and principles set by the regulator. Once the regulator has agreed with each firm how the objectives and principles are to be satisfied, a contract exists between the regulator and the regulated firm. The contract requires the firm to deliver on its agreed standards and procedures, and sanctions apply in the case of non-performance on the contract. The advantage of this general approach is that regulated firms are able to minimise their own costs of regulation by submitting to the regulator a plan that, while fully satisfying the requirements of the regulator, most suits its own particular circumstances.

There are some elements of *Contract Regulation* in the FSA's recently published document: *Meeting Our Responsibilities*. Elements of differentiation with respect to firms are outlined in the document. It also states that: 'We will, for example, continue to explore the scope - within the confines of EC law - for allowing firms with appropriate expertise and strong, well-developed control environments, to determine their own quantitative capital requirements within broadly defined parameters'. The obvious example that is already being considered relates to the use of Value-at-Risk models for determining capital adequacy for market risks.

As part of its commitment to a flexible and differentiated approach, and the imperative to minimise the costs of regulation, it is to be hoped that the FSA will explore how differentiated approaches, and elements of choice, can be extended to other areas of regulation including in the area of conduct of business. An additional

advantage of allowing an element of *monitored choice* is that we learn more about what determines good regulation. Part of the learning process is lost when a monopolist regulator imposes a uniform set of requirements.

15 Conclusions and Assessment

Our starting point was that regulators are to be viewed as supplying regulatory, monitoring and supervisory services for which there is an evident consumer demand. The analysis of the rationale for financial regulation suggests that the major potential benefits of efficiently framed regulation are derived through six main routes:

- (1) reduced transactions costs for consumers (e.g. information and monitoring costs) to the extent that these are not offset by higher transactions costs of firms and the regulatory agency;
- (2) efficiency gains through ameliorating market breakdown or grid lock;
- (3) enhanced consumer confidence;
- (4) the possible generation of positive externalities;
- (5) efficient authorisation procedures which remove hazardous (solvency and conduct of business) firms from the market; and
- (6) enforced disclosure which enhances the ability of consumers to make informed judgements, and increases the transparency of contracts.

While the rationale for regulation has been outlined, and there is an evident consumer demand for regulation, this does not mean that optimum regulation has no bounds. There is a cost to regulation and, in one way or another, the consumer pays the cost. Regulation is necessarily about trade-offs and making judgements, particularly when considering costs and benefits. If the potential for 'over-regula-

tion' is to be avoided, it needs to be firmly grounded on a clear basis of the rationale for regulation. The concept of 'protecting the consumer' is largely protection against the costs of externalities and other market imperfections and failures.

For all these reasons, occasional regulatory lapses and failures are to be regarded as the necessary cost of devising an effective, efficient and economic system of regulation. A degree of regulatory intensity that removed all possibility of failure would certainly be excessive, in that the costs would outweigh the benefits.

We must also consider a particular moral hazard of regulation. When a regulatory or supervisory agency is created and establishes regulatory requirements on financial firms, a danger arises that an 'implicit contract' is perceived as having been created between the consumer and the regulator. This may arise because the consumer assumes that, because there is an authorisation procedure, specific regulatory requirements are established, and the suppliers of financial services are authorised and supervised, institutions must necessarily be safe. The moral hazard is that this 'implicit contract' creates the impression that the consumer need not take care with respect to the firms with which she deals in financial services or that, if something goes wrong, compensation will automatically be paid.

There are distinct limits to what regulation and supervision can achieve in practice. There is no viable alternative to placing the main responsibility for risk management and compliant behaviour on the shoulders of the management of financial institutions. The management of financial firms should never be able to hide behind the cloak of regulation or pretend that, if regulation and supervisory arrangements are in place, this absolves them from their own responsibility. Nothing should ever remove the responsibility for internal supervision within banks and financial firms by shareholders and managers themselves. External regulation and supervision by official agencies is not an alternative to robust and effective internal supervision processes and responsibilities.

For all these reasons, expectations about what regulation, monitoring and supervision can achieve need to be managed to realistic levels. There needs to be a public policy recognition of the limitations of regulation; that it has only a limited role; that even in this restricted dimension it can fail; that not all risks are covered; and that the optimum level of regulation and supervision falls short of eliminating all possibility of consumers making wrong choices in financial contracts. Public policy should never eliminate the incentive for consumers of financial services to exercise

due care. Consumers need to be clear about the limitations of regulation. This is emphasised for three main reasons. Firstly, in the absence of such recognition, the demands placed upon regulation will become excessive to a degree that they can only be met by an excessively expensive, intrusive and rigid system to the extent that the costs are likely to greatly exceed the benefits. Secondly, there is the ever-present moral hazard: that excessive and unrealistic expectations about what regulation can achieve reduces incentives on the owners and managers of regulated firms to monitor and control themselves, and for their customers to exercise due diligence. Thirdly, occasional regulatory lapses and failures are a powerful signal and disciplining mechanism which should be regarded as the necessary cost of an optimum regulatory regime that takes account of the costs that regulation can impose on consumers and regulated firms.

There are costs involved in pursuing legitimate objectives of regulation: if pursued too far, the costs may come to exceed the benefits. Regulation can always be made more *effective* in terms of its defined objectives, but at the expense of higher costs. In the final analysis, it is a question of balancing the benefits of a higher degree of achievement of objectives (*effectiveness*) and the costs that may go with this pursuit (*efficiency*). For instance, it is possible to reduce the probability to almost zero of any bank or financial firm ever failing by the imposition of very high capital requirements and other draconian measures. However, this would raise the cost of financial services to the detriment of consumers. Here we have a trade-off between the probability of, for instance, banks becoming insolvent and the cost of financial intermediation. Similar trade-offs exist in other aspects of regulation.

Although financial firms need to be monitored, reliance for monitoring cannot be placed on official supervisors alone. Other external monitors include shareholders, customers, rating agencies, other financial firms, and auditors. For these agencies to complement the work of supervisory agencies, there needs to be good, timely and relevant information about the business of financial firms. Supervision, regulation, and information disclosure are not alternatives, but components of an optimum regulatory regime.

Finally, the framework established for the economic rationale for regulation in the financial services industry limits its purview. It would not automatically justify everything that a regulator in practice might impose. Some regulation can be welfare-reducing if, for instance, it erects unwarranted entry barriers, restricts competition in other ways, controls prices, stifles innovation, restricts diversifica-

tion by financial firms, impedes market disciplines on financial firms, etc. For these reasons, and as proposed by the FSA, all regulatory requirements should be subject to some form of cost-benefit discipline though, in practice, such exercises encounter formidable methodological problems.

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