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**THE SUPERVISORY APPROACH:
A CRITIQUE**

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Abstract: Rules suffer from two serious defects. The world is complex, and so the creation and application of rules is difficult; and it changes, so that rules become obsolete. In recent years, the conventional wisdom on financial regulation has shifted away from reliance on rules and back towards a ‘supervisory approach’, in which regulators rely more on banks’ own estimates of risk, and focus more on banks’ risk management systems and controls than on their compliance with crude rules. The Basel Committee’s proposals for a new Capital Accord (‘Basel 2’) follow this approach. In this paper I identify four problems with this approach. First, relying on banks’ estimates is not a solution to the problems caused by externalities. Secondly, for supervision to be effective, supervisors must have the skills, incentives and legal powers to change banks’ behaviour. It is difficult and costly to design a regime in which supervisors have desirable incentives. The supervisory approach appears ill-suited to the circumstances of developing countries, at least. Thirdly, the supervisory approach is based on qualitative standards and general principles. This delegates a great deal of discretion to bureaucrats, which is legally and politically difficult in many countries. Fourthly, the implementation of standards is essentially unobservable. As a result, the international regime will shift significantly towards decentralisation. An alternative approach would be to retain an emphasis on quantitative rules, and to improve the process for interpreting, enforcing and revising them.

Keywords: international banking law, bank regulation, bank supervision

JEL codes: G28, G21, K23, K29, G18, G38

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1. Introduction

The conventional opinion in banking regulation is that the current international regime – the 1988 Basel Capital Accord - has been too reliant on fixed rules. Rules have manifest disadvantages: they do not cope well with the complexity and dynamism of the real world. The Basel Accord has become outdated. The majority view is that the regime should rely less on compliance with specific rules and more on the subjectively-assessed quality of the bank's risk management systems, on banks' risk measurement systems themselves, and on public disclosure of banks' risks and risk management as an aid to market discipline. The Basel Committee has embarked on a lengthy and fundamental review of the 1988 Accord. Its proposed regime is based on three 'pillars': more accurate capital requirements (which in the new regime may be based on banks' own risk measures, for banks that meet minimum standards), supervision, and market discipline. The Committee's framework has received widespread support.

The Basel Committee's proposals have run into difficulties that were not foreseen by anyone, including this author, at the beginning of the process. The new regime has taken much longer to agree and is more complicated than those involved originally envisaged. I believe, however, that the Committee's travails were an inevitable consequence of the objectives chosen.

This paper is a preliminary attempt to identify why the new proposals have run into difficulties. The difficulties are not solely economic, but also legal and political. I describe four problems with the new regime.

First, the proposed new regime relies on banks' estimates of risk. Banks' private incentives are not likely to be socially optimal. A bank's failure is costly to others. A number of agency problems cause bankers to want to take on too much risk and to hold too little capital. A single factor, private franchise value, can work in the opposite direction. It is unsafe to assume that the franchise value effect outweighs the agency problems, so that most banks wish to hold more capital than the regulatory minimum, particularly for the biggest banks. Furthermore, important properties of the very system that the Basel Committee is trying to protect – such as risk, liquidity, and capital flows - are not exogenous but defined by the collective behaviour of banks and other financial institutions. What protects the individual bank may not protect the system. If bankers' appetite for risk is not socially optimal, then the regime needs to persuade bankers to change their risk appetite. Relying on banks' estimates is not in itself incentive-compatible unless those risk estimates are backed up by other safety measures that penalise excessive risk-taking. I contend that the existing safety measures are not sufficient.

Secondly, supervision may fail. Supervision has a large part to play in an ideal regime. Supervision uses a broader range of information than can be used in regulation, notably of a subjective nature, and it encourages improvements in risk management, which is for some risks a more efficient form of insurance than capital. However, supervision requires bureaucrats to exercise discretion, which may be used for good or ill. The effectiveness of supervision depends on the incentives faced by many agents. Institutional structures are very likely to give even public-spirited supervisors reasons to behave badly. It is easy to build incentive mechanisms that fail, and very difficult to build mechanisms that succeed.

Furthermore, principal-agent analysis is incomplete. Supervision is interpersonal; human relationships can distort decisions; and rationality is bounded. Supervisors may also have too little power to act effectively. Supervision is more an art than a science. Even at the most well-resourced agencies, there is almost no information on the effectiveness of supervision. Whether supervisory responses are effective is not known. In developing countries the incentives problems are usually much worse, and so supervision is even more likely to fail. As a result of legal impotence, political weakness, lack of skill or perverse incentives, many countries implementing a supervisory approach such as Basel 2 risk impoverishing and corrupting themselves.

Thirdly, a shift towards process-oriented regulation, focusing on banks' internal risk measures and on supervision, necessarily relies on high-level principles and qualitative standards, which delegates decision-making to bureaucrats. Not all legal and political systems can easily accommodate this delegated approach. Supervisory discretion also raises questions of fairness that are not easily answered.

Fourthly, the regime aims to set minimum standards for mutual recognition, but has in practice delivered something closer to full harmonisation. The regime is built on the assumption that there are international free-riding problems and gains from international cooperation. The proposed new regime is more subjective. Implementation of subjective standards is almost, or perhaps entirely, impossible to observe. Institutional arrangements and attitudes to supervision differ widely across countries, and there is little common understanding of the purposes of supervision. In the new regime, peer pressure will have less effect. Nor will market discipline enforce consistency. The thirteen member regimes will diverge. Harmonisation is inconsistent with the use of standards. If the current degree of harmonisation is optimal, then divergence will be costly. The Committee faces a choice: accept greater diversity, or strengthen enforcement mechanisms.

After criticising, I shall tentatively offer some alternatives. International bodies desiring a near-harmonised capital regime must place greater weight on observable regulations than they might consider optimal in a solely domestic context. Far from giving up on the idea of imposing simple rules that conflict with banks' private goals, international regulators should retain the idea of improving private-sector incentives. They should emend the rules to correct the most obvious flaws that allow banks to circumvent the system, although other flaws will inevitably remain. They should strengthen international enforcement arrangements. In the EU, they should streamline the approach for changing the rules. If supervision can be made to work, it should form an integral part of a prudential regime. However, policymakers, not just in developing countries but within the G-10 and EU, should be very cautious before assuming that supervision works. In developing countries, increased reliance on supervisory discretion should come only late in the 'sequencing' of liberalisation. Efforts to improve supervisory incentives and skills must come long before the reliance on discretion. In fact, capital adequacy regulation provides significant opportunities for manipulation by banks and supervisors, and may itself be ineffective as a result. It may be better for developing countries to adopt regulatory approaches quite different from the three 'pillars' embodied in the revised Accord. Such countries should focus on simple rules designed to increase bankers' stake in both success and failure. At the very least, the official community must avoid

inadvertently punishing those who choose to minimise supervisory discretion and adopt alternative approaches.

The rest of the paper is structured as follows. The next three sections provide the background. Section 2 rehearses why supervision and regulation are necessary. Section 3 gives a potted history of regulation and supervision and introduces the new international proposals, generally known as 'Basel 2'. Section 4 explains what regulation and supervision are.

Sections 5 to 8 introduce and criticise the supervisory approach within a domestic context. Section 5 introduces the supervisory approach. Section 6 discusses whether banks may take on more or less risk than the social optimum. Section 7 discusses the circumstances in which supervision may fail. Section 8 introduces some legal and ethical problems raised by the supervisory approach. Section 9 contains a discussion of whether a supervisory approach is consistent with countries' desires to coordinate. Section 10 discusses the supervisory approach in the context of developing countries.

The last two sections conclude and summarise. Section 11 reconsiders the new international proposals in the light of the analysis and questions whether the approach proposed will adequately protect against systemic risk. Section 12 summarises the arguments and offers some alternative recommendations.

2. Why prudential regulation?

The usual rationale for public intervention is to identify some source of market failure, that is, some way in which the conditions for the Pareto-optimality of equilibrium are violated. Such failures are not of themselves sufficient to justify government intervention, since the latter also fails. In this case, the market failures are asymmetric information and externalities (and also transactions costs).

Banks transform short-term liabilities into illiquid long-term loans, thereby providing liquidity insurance to depositors and borrowers. Depositors do not know everything about a bank's financial condition, and banks do not know everything about their borrowers' financial condition, so that asymmetric information problems are everywhere. Banks are vulnerable to liquidity shocks, including runs, in which depositors lose confidence in the bank's financial strength (or in each other) and cannot coordinate their behaviour.

In contrast to other industries in which the failure of one firm can benefit others, the failure of a bank can harm other banks, via

- a contagious loss of confidence
- direct interbank exposures
- the impact on payment systems; and
- the aggravated market impact by which leveraged institutions with common trading strategies are forced to unwind (the LTCM effect).

More generally, bank managers and shareholders do not bear all the costs when the risks from which they profit turn sour. Bank shareholders may have payoffs that induce risk-seeking, particularly around the point of insolvency (on account of limited liability). Depositors and others directly funding a bank bear some costs of bankruptcy.

If transactions costs are low, those harmed by bank failure can bargain with the those posing the threat of harm in order to produce an efficient outcome. Creditor discipline can be seen in this Coasean perspective. What creditors may try to do is agree an *ex ante* insurance contract (*ex post* remedy is, by definition, not available) by changing the price and non-price terms of the credit exposure. However, lenders do not possess complete information about managers' actions, and contracts are incomplete, allowing banks to increase risks after receiving funding.

The asymmetry of information is more severe in the retail sector. Acquiring information, acquiring the skills to process it, and then processing it is costly. Economies of scale in all three disadvantage 'small' (ie retail) depositors. Depositors benefit from others' monitoring, and free ride, so that banks are not sufficiently monitored. A central monitoring agency can benefit from scale economies and apply greater discipline (Dewatripont and Tirole, 1993). Protection of retail depositors is typically one aim of public policy.

When a bank fails, agents without a financial relationship with the failed bank may also suffer from the knock-on effects. Via their impact on other financial institutions, banks can even pose systemic risk. If the costs are severe, as when several banks fail, the resulting chaos will harm all economic agents regardless of whether they were directly exposed to the failed bank. Financial stability is a public good.

If Barclays Bank failed, I would expect to suffer, even though I have no relationship with it. Expected payments might not arrive in my bank account, causing me a liquidity shock and possibly a financial loss due to default; my employer might suffer a liquidity shock causing insolvency; my bank would certainly bear a direct credit loss, as would my money fund and possibly my pension scheme; the loss of liquidity in the system could cause a large fall in asset prices, a credit crunch, and banking panic and a severe economic contraction. Coasean solutions are not possible here, because the cost of bargaining is too high. Barclays could not transact with all the people that it might harm, so there is a missing market. Furthermore, and no less problematic, the risk would be very difficult to price. The probability of Barclays' failure is possible to estimate (with a large degree of error) but the difficulty of estimating the loss to me in the event of default is so great that the loss may be better viewed as purely uncertain. I do not know my willingness to pay Barclays to reduce this risk, or to accept compensation for it. Furthermore if my only relationship with Barclays was to borrow, it would cost me time to find another lender; the capital embodied in the borrowing relationship would be lost.

For 'market discipline' to produce a social optimum from the regulator's point of view, the interests of the market and the regulator need to be aligned; in general, they are not. It is often claimed (since 1983) that subordinated debt-holders have interest that are well aligned with regulators. But they do not have incentives to control systemic risk, and they face asymmetric information problems. Thus there are generally insufficient incentives for bank management to internalise the externality.

The severity of the market failures is debated. Most agree, however, that whatever the efficiency of free banking, the safety net (lender of last resort/solvency assistance and depositor insurance) induces moral hazard. The largest banks are generally believed to be subject to an implicit government guarantee, which may eliminate all market discipline.

Thus, in the absence of regulation their social cost of risk-taking exceeds the private cost, and markets and lenders do not have either the ability or the incentives to force banks to internalise the cost. Some or all banks take on more risk than they should. Regulation and supervision, in particular, may be needed to counteract the undesirable incentives caused by depositor protection and public liquidity insurance.

Public intervention, therefore, usually aims to protect depositors and contain systemic risk. These are not the only objectives, of course. An unconditional public guarantee of all banks would achieve the stability objectives, but at the cost of efficiency: capital would be wasted, investment distorted, and moral hazard effects could mean that risk is not reduced in practice. Stability and (short-run) efficiency therefore conflict to a certain extent, as do competition and stability.

Intervention takes many forms. The protective tools include minimum standards for authorisation, solvency requirements, ownership restrictions, connected lending restrictions, 'fit and proper' standards for managers, large exposures limits, liquidity rules, and disclosure requirements. The curative tools include lender of last resort assistance, solvency assistance, closure and special insolvency procedures in many countries. To some degree the level of competition is also a policy variable. These all form part of the regime and should ideally be considered together (Llewellyn, 2000). However, that is difficult to do in practice.

3. Some history and context

Discretionary bank supervision is sometimes thought to be a new idea. In fact, it is capital adequacy regulation that is the newcomer.¹ Following the National Currency Act of 1863, US banks were supervised by state authorities or by the Comptroller of the Currency; the neonate Federal Reserve was also given supervisory responsibilities under the Federal Reserve Act of 1913. Bank supervisory responsibilities were set by statute in Italy in 1926, Japan in 1928, and Germany, France, Belgium and Switzerland in the 1930s. The UK did not adopt a statutory bank supervision regime until the 1970s, but the Bank of England exercised an informal supervisory function for many years even before its nationalisation in 1946. The idea of supervision was to acquire information in order to reduce the risk of crisis, and to inform decisions in the event of crisis.

Governments did also rely on rules designed to limit the probability of bank failure, but they were 'structural' rules limiting bank entry, diversification of activities, and interest rates. The capital adequacy regime in the G-10² dates from the 1988 Capital Accord (Basel Committee, 1988), which requires that the ratio between a bank's capital and a measure of risk known as 'risk-weighted assets' be no less than 8%.³ It appears to be a much less discretionary regime than its national predecessors, although in fact it has nothing to say about implementation or supervision.

If banks are constrained by this ratio, they must reduce their risk-weighted assets or raise capital. The calculation of risk-weighted assets is crude. There is great potential for perverse selection, for banks to buy risks that are (to them) underpriced by the Basel regime, and to repackage and to transfer risks that are (to them) overpriced. Incentives to do so are stronger, the more the regulatory measure of risk differs from the bankers' view. The act of reducing risk-weighted assets while not in reality reducing the risks is known as 'regulatory arbitrage'.

It was perfectly obvious to the designers of the Accord that the risk measures were crude, but they were the best technology available. In 1988, banks were not well equipped to act on the incentives. Since then, risk management and product innovations have reduced the cost of reacting to marginal as well as average incentives, and competition has sharpened banks' incentives to do so. Sophisticated banks can now manipulate the ratios to publish virtually any solvency ratio of their choosing (see Jones, 2000, for instructions).

Innovations created products for which the 1988 Accord did not contain any rules. Credit derivatives are a relatively recent example of instruments shoehorned into the old framework.

The problem that generates most regulatory arbitrage is that a large collection of loans and a piece of paper representing the cash flow on the same package of loans are treated differently. I call this the *multiple-name problem*. The Accord already allows rating agency ratings to be used to determine the specific risk weights in the trading book for specific risk,⁴ and rating agencies take into account diversification. A set of loans therefore requires less capital if it is securitised (or 'synthetically' securitised using credit derivatives). Jones presents an estimate that outstanding non-mortgage securitisations sponsored by the ten largest bank holding corporations represented more than 25% of their total risk-weighted loans, and more than 50% in some cases.

More generally, where the regime differentiates between categories of transaction, banks may engage in category manipulation to reap the regulatory rewards of one category with an economic structure that belongs to another. For example, evergreen facilities are structured to be of short contractual maturity (364 days, usually) but are rolled over in practice, so that their effective maturity exceeds the contractual; transactions are manipulated so as to persuade the supervisor to grant a more favourable treatment in the trading book despite a lack of trading intent; capital instruments are designed to possess just enough payment flexibility to persuade the banking supervisors to treat them as core capital and just enough payment obligation to persuade the tax authorities to treat them as debt. The effective result is to replace equity with debt, increasing the probability of insolvency and the costs in the event of insolvency.

Thus the 1988 Accord, and the EU capital regime based on it, were recognised to be obsolete, and the Basel Committee and EU institutions began the enormous task for revising them. According to Meyer (2001b), the 'Basel 2' review has been largely motivated by regulatory arbitrage, and in particular by securitisation.

Supervision has received renewed attention in recent years, and bank supervisors have modified their approach. Like auditors, supervisors have ceased to devote all their efforts to checking compliance with regulations – 'box ticking' – and spent more of their time assessing the soundness of a bank's risk management systems and controls. The change in attitude has been characterised as a shift from a 'regulatory approach' to a 'supervisory approach' (eg Mishkin, 2000). Mishkin says that the Federal Reserve's guidelines to examiners from 1993 onwards began to reflect this shift in thinking. The change has also been termed 'process-oriented regulation'.

A logical extension of the supervisory approach is the use of banks' own risk measurement systems in the calculation of regulatory capital adequacy. It is rarely noted that the process actually began at the beginning, with the use of banks' mark-to-model

valuations of OTC derivatives in the ‘current exposure’ approach to counterparty risk (BCBS 1988, 27) and continued with the recognition of value at risk models in the Market Risk Amendment (BCBS, 1996a). Such an approach is broadly consistent with the trend towards deregulation in many industries over the last two decades. The Basel 2 review therefore combines the updating of the capital ratio rules with a codification of this *existing* trend towards greater reliance on supervision.

The Committee’s objectives (BCBS 2001c, 8) are that the new Accord should:

- “continue to promote safety and soundness in the financial system...
- continue to promote competitive equality
- constitute a more comprehensive approach to addressing risks
- contain approaches to capital adequacy that are appropriately sensitive to the degree of risk involved in a bank’s positions and activities; and
- focus on internationally-active banks, although its underlying principles should be suitable for application to banks of varying complexity and sophistication.”

The Basel 2 proposals (Basel Committee 2001a) are based on three ‘pillars’. Pillar 1 is capital adequacy (or solvency) regulation; Pillar 2 is the ‘supervisory review’ process; and Pillar 3 is disclosure requirements (as an aid to market discipline). The second pillar is based on four principles:

Principle 1: banks should have a process for assessing their capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels.

Principle 2: supervisors should review and evaluate banks’ internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process.

Principle 3: supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum.

Principle 4: supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

Each principle is supported by explanatory text, and there is a supporting technical document explaining the meaning and implications of the principles (Basel Committee, 2001b). The supporting text for Principle 2, for example, states that supervisors should check compliance with minimum standards in Pillar 1.

The European draft proposals (European Commission Services, 2001) for a third Capital Adequacy Directive ('CAD3') contain two draft legislative articles relating to supervisory review:⁵

Article 1: Competent authorities must be able to require individual institutions to hold capital in excess of the basic minimum requirement appropriate to its risk profile and the adequacy of its controls.

Article 2: An institution must be able to satisfy the competent authorities that it has in place an appropriate process for assessing its risk profile and its capital adequacy, and a strategy for maintaining capital adequacy.

Article 2 functions as the definition of supervision and sets out its objective. Article 1 is one possible mechanism that authorities could use to persuade banks to be prudent.

The draft articles are supported by further text explaining the purpose of the principles and giving examples of how to satisfy them. Thus both the Basel and Brussels approaches distinguish between principles at a high level of generality, and more detailed standards of more use to banks and supervisors.

The move from rules to standards in *Pillar 1* proposed by the Basel Committee (and European Commission) is perhaps more radical than the introduction of Pillar 2. Each of the risk classes (market, credit and operational risk) will offer a menu of approaches varying from the crude but penal to the sophisticated and more generous. The more sophisticated approaches rely more on supervisory judgement than the standardised approach.

4. Supervision and regulation

For the purposes of this article, the term 'regulation' consists of a set of binding rules (which may be formulae or standards - see below). The rules are produced by some official body with commonly-accepted authority, and there are sanctions for violation. This paper focuses on capital adequacy rules, which require banks to hold a certain quantity of 'capital' in excess of a specified proportion of a specified measure of risk. If banks do not follow these rules, then regulators are expected to apply sanctions, which include withdrawing the banking licence.

The rules may be simple or complex, depending on the preferences of the rulemakers. In fact the international capital adequacy rules agreed in 1988 were quite simple, but have accreted complexity over time. The rules have had to accommodate subsequent banking innovations. Moreover, the regulated have themselves demanded more detail, which helps to reduce a bank's legal risk.

The idea behind capital requirements is simple. The more capital a bank has, the more losses it can sustain before those other than shareholders lose. The level of capital also affects managers' behaviour (Dewatripont and Tirole, 1993), although the effect is ambiguous in theory and difficult to measure empirically (see Jackson and others, 1999)

Supervision is about trying to make bankers behave prudently. Prudence is an instrumental goal, designed to achieve other objectives of more fundamental importance. Supervision is *intrinsically* complex. Even having done the job, I find it difficult to describe. It combines elements of risk-based auditing, management consultancy and credit analysis. This complexity has important implications for its use as a policy tool.

Supervision requires the assessment of principles that may be unwritten and may not have the force of law. For the rest of the paper, I split the process of supervision into four steps (see Figure 1):⁶

1. setting objectives
2. gathering information
3. using the information to produce a risk assessment
4. choosing actions in response to the assessment.

In its narrowest form, enforcement of compliance with rules could be called supervision (in the sense of monitoring). Enforcement is clearly complementary to regulation, since regulation is ineffective without it. However, it is less confusing to regard enforcement as something separate from supervision. A policy function, too, occupies taxonomic no man's land. Much of policy is about interpreting specific (hard) cases, with the possible outcome that the relevant rules are changed.

The objectives of supervision typically include protection of retail consumers and of the financial system, but they may include social objectives, competition responsibilities, and so on.

In step 3, supervisors produce risk assessments, which effectively map information collected by the supervisor on to a risk scale (often multidimensional). Of course, 'risk' needs to be defined, and depending on the supervisory objectives, risk may be private financial risk, social financial risk, or some expected social loss (incorporating the damage caused by failure as well as its probability). A quantitative model could be used to produce a risk assessment. In practice, it is generally believed that much non-numerical information is of relevance. While much information could be mapped into numerical form, much of the information and the assessment of risks is subjective. Formal decision tools are rare, and where they do exist, a 'manual override' is built in (perhaps as a result of humility regarding the model's explanatory power, or perhaps aversion to the loss of control). What most agencies do instead is to construct a decision framework that uses but constrains the subjective assessments of supervisors. A framework prescribes what supervisors should look at and remind them of their objectives. Within these frameworks supervisors use their expertise to form judgements on the basis of both quantitative and qualitative information.

Relevant information relates to matters that may threaten the survival or behaviour of the bank and threaten the supervisor's objectives. These matters are often known by the acronym CAMEL: capital, assets, management, earnings and liquidity. Information relates not just to the bank's portfolio and strategy (ie business risk) but to the *process* by which risks are managed.

Having defined the use to which information is to be put (step 3), it is possible to decide what information is wanted and how it is to be obtained (step 2). The means by which supervisors gather the information they need may include any or all of the following: on-site examinations, off-site review, discussion with bank management, external audit, and periodic reporting (Basel Committee, 2001b). The proportion of time spent on site has varied significantly across countries, with the US and Germany usually being cited as the polar cases within the Basel Committee members. Over recent years, however, most

authorities have changed the mix in favour of more on-site work, because some information, particularly that relating to the quality of systems and controls, can only be acquired on site.

The fourth step is the point of supervision. There are many possible actions available to a supervisor – limited by the legal powers of the regulator - and many possible kinds of response desired on the part of the bank. Most supervisors regard capital as a strictly second-best solution to many problems. Capital is an expensive form of self-insurance, and is ill-suited to protecting against very low-probability, high-impact risks. Usually the response desired will be some improvement in systems and controls, and this is the area on which supervision tends to focus.⁷ Without supervisory action that is clearly related to the supervisor's risk assessment (step 3), banks have no incentive to control risks in ways that the supervisor desires, in which case much supervision will be pointless. It should be obvious, too, that risk assessment inherently treats banks individually.

Another step, implicit in this framework but a necessary condition for supervisory effectiveness, is a reaction by the bank. If supervisors huff and puff and banks ignore them, then supervision is clearly ineffective. The process by which banks are persuaded to do something other than what they would otherwise do, if indeed they are, is unclear.

Regulation can be seen as reinforcing supervision, and supervision can be seen as correcting for the failures of regulation. Inevitably, the Basel solvency regime is not a true measure of risks either to shareholders or to others. Two important risks missing from the capital regime are foreign exchange settlement risk, and management incompetence. Often, it is the unmeasured risks that have brought banks down (particularly management failure and fraud). Although the new regime introduces a capital requirement for operational risk, no-one claims that the regime will be a perfect measure of operational risk (whether private or social). Pillar 2 contains the idea that supervisors should be assessing the missing risks and persuading banks to manage them soundly.

Supervision therefore involves a broad range of tasks: *providing an early warning* of increasing risks, both within a firm and across firms; *understanding* the business and the strategy; *assessing* business risks; *judging* the adequacy of risk measurement and control, both at authorisation and afterwards; *punishing* failure and *rewarding* success. The tasks vary from the co-operative (it is in the bank's interest for the supervisor to gain an understanding of it) to the antagonistic (the bank is judged to have failed in some way and the supervisor has to punish it).

It should be no surprise therefore that supervisors⁸ must possess a broad range of skills. Naturally, they must understand banking, which is a complex and diverse business. Given the growth in universal banking, they must increasingly be familiar with other forms of financial intermediation. They must also have some understanding of the relevant law, both that governing banking and that governing the actions of the regulator. Ideally, they should have some familiarity with the basic concepts of public economics, because it is helpful to know why you are doing what you do. Last, but perhaps foremost, they must have the interpersonal skills to persuade experienced, assertive and well-remunerated bankers to do things against their will.

The role of supervision differs across industries. Bank supervisors have tended to have a more co-operative interaction with their charges than non-bank regulators (eg IMRO in the UK, the SEC in the US). Particularly in the UK, the relationship between banks and regulators has been characterised as excessively cosy. Cruickshank (2000) argues that the UK government, regulators, and large banks have informally colluded to deliver confidence in the banking system in return for restrictions on competition. The role of supervision also varies across countries and across time, more of which below.

Regulation and supervision are quite different, therefore. While the framework within which supervision is done may be public, supervision itself is usually conducted in private. Supervision is highly multidimensional: there are many inputs into supervisory assessments, and many possible responses. Supervision is an interpersonal task, as well as analytical. The effectiveness of supervision relies to a large extent on convention and norm, rather than on formal law, and the tools of persuasion are subtle.

5. The problems of regulation

Why do regulators now place more reliance on supervision and less on regulation as a means for achieving their objectives? The answer is increasing disenchantment with regulation. Two papers by Arturo Estrella provide the best explanations.⁹

Optimum versus minimum capital

Estrella (1995) distinguishes between actual, 'optimum' and 'minimum' capital. He argues that optimum and minimum capital fulfil quite distinct roles and should be measured in different ways.

'Minimum' capital (that is, a regulatory capital requirement) is the capital that regulators deem the minimum consistent with their objectives. It consists of three components: a definition, a measure of exposure, and a ratio. Estrella argues in favour of simple, comprehensive measures.

According to Estrella, it is generally thought desirable that regulatory capital requirements should:

- Be objective and verifiable. Formulae are well defined in advance; an auditor can replicate the calculations given the inputs.
- Be comparable across institutions and across time.
- Bear a stable relationship to underlying positions (same portfolio, same regulatory capital requirement).
- Be public knowledge, generally, so that others (market participants, for example) can make comparisons.
- Be based on a rough calculation. The aim should be to measure first-order exposures in an informative but approximate way.
- Be a guidepost. Minimum capital should represent a minimum level that is seldom directly binding. It is not intended as a level toward which the firm should aim, nor as a standard for risk management. The bank's actual capital should appreciably exceed the minimum.

Estrella calls the level of capital that a firm determines desirable in the short run '*optimum capital*'. The firm is likely to regard equity as more expensive than debt, and so will not be indifferent to capital structure. The firm is likely to have a goal for capital based on an assessment of risks, the market's response to its capitalisation, the cost of capital and so on. Determining the goal may be a rough and ready process. It need not be based on a complex economic capital model, but can be if the bank feels that it is appropriate. Since there are adjustment costs, optimal capital is a goal and a plan for moving towards it. The definition of capital may (and generally does) differ from that used in minimum capital. 'Optimum' capital is likely to be subjective, and hence difficult to validate. It will not be comparable with other institutions' calculations, and it will be unstable with respect to a given set of underlying positions.

Minimum capital then plays a useful role "because it furnishes the outside observer with an objective frame of reference for examining the less transparent optimum measure."

'Optimum capital' is a private optimum, but is it also a social optimum? Estrella says that it is "presumptuous" to assume that the social optimum is readily quantifiable. It is thus reasonable to adopt the "market solution", to "assume that in the absence of perverse incentives, individually determined optima are acceptable for policy purposes". Estrella argues that mispriced deposit insurance and too-big-to-fail expectations provide such perverse incentives, and that supervisors should force banks to exclude the benefits from their calculations of optimum capital.

The problem with rules

Estrella (1998) focuses on the problems with formulae (ie, with rules) as a basis for regulation. He implicitly follows Hart (1961) in identifying *complexity* (which causes uncertainty and conflict) and *change* as weaknesses of (primary) rules:¹⁰

- The business practices of the financial sector, and in particular the network of informal rules and conventions on which they are partly based, provide a certain level of consistency, but they are very complex. "the problem is not simply that [informal rules] have not been specified, but that they defy specification. Behind the network of routine practices of the business lurks a system of true inherent complexity."
- If banking were completely determined by formal laws clearly stated and strictly implemented then mechanical formulas could play a useful role. If all could be known, it could be specified in advance. But how can we rely on static formulas if they have to be applied to a business that is continually changing? The only way to keep pace is to change the formulas, with a costly loss of predictability.

Clearly, these problems are related to, but broader than those identified in the literature on rules versus discretion in monetary policy (Kydland and Prescott, 1977; Lohmann, 1992).

Llewellyn (2000), too, lists a number of problems associated with rules, including the following:

- Risks are usually too complex to be covered by simple rules.
- An inflexible approach does not allow firms to find the least-cost solution.

- Rules can stifle innovation.
- Rules encourage box ticking, a focus on compliance rather than risk.
- Rules are added over time, but few are withdrawn.
- Heterogeneous firms may be treated equally by rules, which reduces scope for differentiation.
- Rules are inflexible and cannot change easily in response to market conditions.
- Moral hazard: firms can assume that if it is not in the rules, there is no regulatory dimension.

Proposed solutions

Estrella makes two suggestions in response to the problems of complexity and change. The first is to “strive for generality and adaptability in statute and regulation”, avoid detailed definitions that may be inefficient and easily circumvented, and “stay away from the mechanical or artificial”.

His second recommendation is to rely more on supervision. The supervisor should focus primarily on the determination of optimum capital by the firm. “The firm would be accountable in the first instance for determining its own appropriate level of capital... The supervisor would monitor the performance of the firm in the determination of the appropriate level of capital... The supervisors would also ensure that the views of the firm are consistent with the public goals of systemic safety and soundness, and that there is no attempt to take undue advantage of elements of the financial safety net, such as deposit insurance.” It is for supervisors, therefore, by talking to banks and applying persuasive pressure, to “insist that the firm not reduce its estimate of optimum capital as a result of unpriced or mispriced benefits from the safety net”. The minimum capital formula would then be used solely as a trigger for regulatory intervention.

Regulatory minimum capital should be calibrated as a lower bound for normal optimum levels. If optimum capital turns out to be less than minimum capital, then “either the initial judgments that led to the formulation of the minimum were too strict or the ongoing judgments involved in the determination of the optimum are too lax... The frequency of such occurrences would indicate which possibility is more likely.” Where should an institution’s actual capital be? “By definition, in all cases, it should be as close as possible to the optimum level.” For the rest of the paper, I shall Estrella’s the *anti-formalist approach*.

Llewellyn (2000) argues for less emphasis on prescriptive rules (direct regulation) and more on incentive structures. This is not identical to Estrella’s recommendation, since incentive-compatible indirect regulation can still rely on rules. Nevertheless, Llewellyn argue that more weight should be given to banks’ internal risk analysis. Llewellyn’s approach is more like that of the Basel Committee.

The Basel Committee’s *supervisory approach* also boils down to two ideas. First, a search for greater risk-sensitivity in Pillar 1 capital requirements (that is, for regulatory minimum capital to move towards optimum capital) in order to reduce incentives for regulatory arbitrage. Hidden beneath this idea is an essentially ideological belief that

banks are able to measure their risks. Secondly, a more qualitative approach that includes greater emphasis on supervision. The Committee (BCBS, 1999b,3) justifies this approach on the grounds that it protects against complexity and change: “By focusing on risk and risk management, the new framework has the potential to meet the challenges of innovations in increasingly complex financial markets.”

Common to all approaches is a desire for more emphasis on supervision, and more emphasis on banks’ estimates of risk. However, there is a crucial difference. Estrella argues that banks’ own estimates of risk should be the starting point of *supervision*, and warns that an attempt to merge minimum and ‘optimum’ capital “could backfire”. The Basel Committee uses banks’ estimates as an input into regulation and supervision. The Committee therefore places greater reliance on banks’ own estimates and on the benefits of supervision than does Estrella.

Estrella’s (1995) insistence on the difference between minimum and optimal capital is an important insight. His desired properties of minimum capital rules – comparability, verifiability – are indeed highly desirable. The criticisms of rules, too, are valid. However, both the anti-formalist and supervisory approaches seem to be based on two assumptions. The first is the *faute de mieux* assumption that the private and the social optimum will coincide, or at least that a shared understanding is possible. Estrella makes this assumption explicitly and in a qualified manner, the Basel Committee implicitly in its focus on risk-sensitivity and disclosure. The second assumption is that supervision has beneficial effects. I discuss these assumptions in the next two sections.

6. Private versus social optimum

The question in this section is whether, in the absence of regulation and supervision, bank stakeholders’ appetite for risk is socially optimal. Is ‘optimum’ capital really the best thing for society? The answer is: only by chance. The *laissez-faire* outcome is rarely even constrained Pareto-optimal (Greenwald and Stiglitz, 1986).

Banks may take on more or less risk than is socially optimal because bankers respond rationally to private, socially harmful incentives, or because they are irrational or incompetent. The discussion below focuses on the first of these, agency costs. A principal-agent analysis is based on an assumption that people are competent, and ‘rational’ in the sense that they maximise von Neumann-Morgenstern expected utility. Competence is a strong assumption. In practice, it is extremely common for banks to take on large risks without being aware of it. But it is difficult to model incompetence within a principal-agent framework.¹¹

There are principal-agent relationships, among others, between voters, taxpayers and legislators; the legislature, the central executive and supervisory agencies; senior management of supervisory agencies and junior staff; bank examiners and bank compliance manager; trader and risk manager; all bankers and their management; management and auditors; supervisors and auditors; auditors and shareholders; management and borrowers; management and shareholders; and management and other lenders. The outcome depends on the incentives under which actors at every level act. And since in many of those relationships there are many players and multidimensional supervisory responses, a complete analysis is impossible.

Shareholders

For the moment let us assume that managers do what shareholders want, perhaps because the shareholders manage the company. What might cause shareholders to have attitudes to risk that deviate from the socially optimal?

The first and most important distortion is limited liability,¹² which increases the costs to others of bank failure. Adam Smith criticised the institution of limited liability, pointing out that joint stock holders are willing to bear more risk than partners. Limited liability amounts to an option that allows the shareholders to put the assets of the bank to debtholders when the value of the debt exceeds that of the assets (Merton, 1974). This is true of any limited liability company, but another option, deposit insurance, is only granted to managers of banks. Clearly, asymmetric payoffs have more effect on those who are near the point of insolvency¹³ (although the time value of the option may remain significant even when the option is well out of the money). Limited liability means that owners are indifferent to the distribution of losses beyond the point of insolvency; those who bear those losses are not. This is an example of a general problem. People whose actions matter do not bear all the losses or gains resulting from their actions. The burdens are shared by others. This is a general description of a moral hazard, and it shows that moral hazard is a type of externality.

Estrella allows that banks near the point of insolvency have perverse gambling incentives, but he assumes that, in general, the private only differs from the social as a result of insurance provided by the safety net, and that this can be internalised by supervision. A problem with this argument is that the failure of a large bank imposes costs on those who do not have a direct financial relationship with the bank, an externality for which there is no market. Furthermore, there are other sources of moral hazard.

Secondly, tax structures induce a private preference for debt over equity. However, taxes (net of deadweight losses) are not costs but transfers, and so banks' preference for debt may not be socially desirable.

A third difficulty is ownership and control of banks by the state, or by government officials or their cronies. State ownership is the norm in many countries, particularly those with undeveloped financial systems and low per capita incomes. In a sample of 92 countries, La Porta et al. (2000) estimate that in 1995 governments on average owned 42% of the equity of their ten largest banks. Government ownership distorts both banks' and depositors' decisions to lend, and reduces incentives to operate efficiently. State banks often lend to state firms, or to the government itself, at below-market interest rates. The returns are usually inadequate, and the taxpayer effectively bails them out (although state banks may operate with negative net worth; with a state guarantee, capital is not so relevant). Subsidised state savings institutions, as in Japan, may also distort competition. La Porta et al. (2000) find that government ownership appears to be negatively related to income and productivity growth since 1960. Caprio et al. (2001) find that government ownership of banks is negatively associated with banking development and positively linked with government corruption indicators.

A related distortion is political interference in private-sector banks. Banks are socially important institutions, and there are close links between government members and banks

in many countries. In such cases, neither side favours free entry and exit. State-directed lending, to prop up state-owned firms or favoured industries or to finance a fiscal deficit, is also the normal state of affairs. Large corporate borrowers, too, often have significant political influence, distorting banks' lending decisions. A bank may be encouraged to lend to weak car manufacturers owned by the son of the country's president. Unless bureaucrats are better at spotting privately profitable lending opportunities than bankers, or can correct for capital market failures, state-directed lending reduces returns to banks, reduces their solvency and so increases financial fragility. Since loans are long-term assets, these effects may endure long after the government retreats from the business of credit allocation. State interference can also create expectations of an implicit state guarantee. Explicit state guarantees are not rare. In Europe, the most obvious example is the German Landesbanks.¹⁴

Fifth is connected lending. When the borrower is connected to the shareholder-manager, it is virtually impossible to maintain an arm's-length approach to price, quantity and non-price terms of the debt contract. When banks make loans to companies that they or their managers own, there are irresistible incentives to roll over debt - and increase risk to bank shareholders and others - rather than foreclose. Loans to shareholders can exceed the value of the shareholding (and the *true* value of the bank's entire net worth) several times over; in such a case the shareholder/borrower may have little invested in the bank's survival and has strong incentives to 'loot' from the bank's creditors while it is still possible (Akerlof and Romer, 1993). For example, before the establishment of the Banking Regulation and Audit Board in Turkey, it was common for owners of troubled banks to be tipped off before the government took them over, and to walk away with suitcases full of cash. In October 2000, under the new regime, Murat Demirel and several associates were arrested and accused of having siphoned off funds from his bank before it collapsed. Rules limiting connected lending are at least as important as those prescribing capital adequacy.

A sixth problem is ownership by criminals for the purposes of laundering money. At a less extreme level, when banks are owned by people who wish to use their banks as status symbols or levers for political power, managers have little reason to be prudent.

On the other hand, banks may possess franchise value, which may be thought of as the capitalised stream of supranormal profits resulting from oligopoly rents, from valuable lending relationships, or above-average efficiencies. Managers also derive private benefits from well-paid careers. Both of these are private benefits that are lost to the beneficiaries (but not, in all cases, to society) in the event of bankruptcy. The benefits derived from high franchise value give managers and shareholders an incentive to hold capital and control and diversify their risks in order to reduce the probability of failure, and so align their interests with those of regulators (Keeley, 1990). Demsetz et al. (1996) indeed find that US bank holding companies with higher franchise value (measured by an estimate of Tobin's q) hold more capital and more diversified portfolios than lower-value banks.¹⁵

Managers

In addition to problems generated by shareholders' private incentives, there are corporate governance problems between shareholders and managers. In order to align managers'

incentives with shareholders, non-executive remuneration committees in many countries have required managers over the last two decades to rely more for their remuneration on 'performance-related' pay than on basic salary. Remuneration packages now include large elements of profit-related bonuses, shares and share options.

There are reasons, however, to suggest that performance-related pay is not in fact related to performance. If bonuses are profit-related, unadjusted for risk, managers have incentives to maximise short-term profit. If expected return is positively related to risk, this gives an incentive to take risk. If managers are rewarded in shares, they have incentives to take measures to maximise the share price, which may distort both accounting techniques and investment decisions (Stein, 1989). Managers also share the shareholders' incentives to seek risk near the point of insolvency. When they are paid in share options, they benefit automatically from increasing the volatility of the share price,¹⁶ and thus from increasing risk and leverage.

Assume that a manager is remunerated according to annual profits, is sacked if losses are too large, and receives a bonus if profits are large enough. Then, ignoring the basic salary, the payoff can be seen in Figure 2.¹⁷ The remuneration structure is equivalent to a bet that profits will be greater than a , another bet that profit will be greater than b , and a purchased call option with a strike price of b . At point X, the manager will seek to reduce risk in order to protect his job. At point Y, conversely, the manager will love risk. At point Z the bet (or digital option) will induce risk aversion (even though the value of the call option increases with volatility). If the next period's targets rely on this year's overperformance, ratchet effects may reduce managers' desire to make profits this year.

The market for corporate control could, in theory, act as a substitute for weak corporate governance, but the market for bank ownership is highly regulated. Controllers must be fit and proper (for example, in the Second Banking Coordination Directive¹⁸). There are good reasons for requiring shareholders to satisfy minimum standards – protecting depositors from theft by criminals – but, as with safety standards, they can also be used as barriers to entry and international non-tariff barriers.¹⁹ British insurers and Spanish banks may be discouraged from owning French banks, for example.

Traders

The misfortunes of Barings, Sumitomo, Daiwa Bank, and most recently Allfirst show that traders' incentives matter. These are just the public stories; almost every bank has its own private experiences of traders breaking limits, booking bogus transactions or trying to manipulate reported profits.

Traders' remuneration structure can closely resemble that of senior managers. They share in profit (via bonuses) but have a near-fixed cost to loss (zero bonus, or dismissal). Bonuses are often calculated with reference to trading profits over a short period and are not adjusted for risk. This undesirable structure may be a stable equilibrium.²⁰

It is natural to assume that banks know their risks (for example, that they know the true confidence interval given by their value at risk model), while regulators do not. In fact, banks don't either. Because banks' risk profiles continually change, their measures of risk are always incomplete. Banks reckon to make large profits from new products, since they are less 'commoditised'. For the same reason, the risks are usually harder to price, in the

absence of a market price. A dynamic bank's profile of risks will contain some new sources of risk that are not well captured in the central internal risk management system, or even on ad hoc spreadsheets. (The effectiveness of the middle office determines the significance of these unmeasured risks.) Nor do they know their profits.

In other words, risk, income and value are imperfectly monitored. Even if remuneration is structured on the basis of risk-adjusted return, therefore, the risk adjustment methodology will contain loopholes. Traders' remuneration depends on reported risk and reported profit, and they have incentives to reduce their reported risk (by booking fictitious hedges, for example), and to exaggerate their profits. Traders are employed to spot opportunities to take advantage of trading opportunities, and not all such opportunities are presented by the external environment. It is partly because the first-order risks are captured in banks' risk measurement systems that traders seek to assume other risks (and while the individual banks have hedged their first-order risks, it is not certain that the banking system has).

Risk management suffers from a Red Queen effect. Risk management standards must run simply to keep up. While risk management has undoubtedly improved in the last decade, the risks have changed. The ability of banks to control the risks they actually assume has improved by much less, if at all.

Credit officers

Money can be lost very quickly on trading activities. However, while traders can bring down a bank quickly, it is credit losses that cause most banks to fail. Banks lend to borrowers that do not repay; very frequently, they lend to only a few borrowers and fail to diversify across regions and sectors. Regulators may inadvertently limit diversification (eg inter-state branching restrictions), while in other cases credit officers simply do not spot correlations or have no reason to do so.

Credit officers are typically rewarded for making loans (Udell, 1989) or generating fee income. They are less commonly rewarded for lending at a price that covers the risk, or for reducing concentration. Forward-looking provisioning would help to improve incentives on loan officers (that is an important benefit), but it is unusual, and in many countries including the UK it is inconsistent with accounting standards.

When a borrower misses payments, a banker faces a decision whether to foreclose. This is rarely an easy decision: by increasing (restructuring) the loan, the bank may allow a solvent borrower to survive a small liquidity shock, and so by avoiding the costs of an inefficient insolvency increase the amount the bank is likely to be repaid.²¹ This is particularly true when the perfection of collateral or the declaration of insolvency are legally uncertain and costly, as in many developing countries. But many credit officers face incentives to roll over a loan and capitalise the unpaid amount rather than admit to its delinquency. This hides the non-performance from regulators and auditors, and potentially from senior bank management. Such incentives may be exacerbated in a relationship banking model in which the lender has a good working relationship with the borrower, or where he is receiving bribes. If a missed interest payment is reclassified as a new loan, then bad loans will have a tendency to drive out good ones, and it is then impossible to improve provisioning policies without wiping out the banks' capital. In

other words, many banks are really insolvent. A similar phenomenon of ‘historic-rate rollovers’ arises in derivatives transactions.

Economic ‘irrationality’

Even if monetary payoffs are linear, responses are not. If utility functions are concave, agents maximising expected utility are risk averse. Furthermore, the ‘rational’ prescriptions of expected utility theory are violated even by intelligent individuals with large monetary incentives. In the more descriptively successful prospect theory (Kahneman and Tversky, 1979), decision-makers adopt a two-phase approach to decisions under uncertainty. First the choice is ‘edited’ or framed, then it is evaluated. In the second phase, the utility function is concave in the domain of gains but convex (risk-seeking) in the domain of losses. Because of this asymmetry, the subjective payoffs are sensitive to how decisions are framed in the first phase. The choice of frame affects the outcome of decisions (Kahneman and Tversky, 1986).

Even where agents do not receive discontinuous end-of-year bonuses and have linear payoffs, they may adopt a ‘naïve accounting’ frame, inappropriately taking into account their past results. Their internal frames may induce them to gamble for resurrection or to sit on gains.²² From shareholders’ point of view, sunk costs and benefits should be ignored. Shareholders may prefer traders to ‘twist’ when they actually ‘stick’, or vice versa. Traders may also suffer illusions of validity after random clusters of success, and increase their risks.²³ Their managers may fall prey to the same illusions and promote them.

Behavioural externalities

In the last two or three years it has become more widely recognised that bankers managing private risks may cause the banking system as a whole to become unstable (see, for example, Morris and Shin, 1999; Persaud, 2000; Acharya, 2001). Banks assume that the returns on financial assets reflect pure uncertainty. However, financial assets are not traded with nature, but between agents within the system. It makes less sense, therefore, for regulators interested in financial stability (which includes both central bank and bank regulatory agencies) to assume that the risks are exogenous. To take some examples:

- Bankers have incentives to herd. Individual bankers and institutions are less likely to be punished if other bankers lose money at the same time. Where information is heterogeneous, the views of others contain information; it can be rational to follow the herd on the assumption that others know something. Thirdly, banks prefer to make correlated investments if they suffer rather than gain from other banks’ failure (Acharya, 2001). But if all banks do the same thing, the probability of joint failures is greater.
- Financial institutions react to price shocks by changing their assessments of the risks and rebalancing their portfolios. If they all measure the risks in the same way (eg using value at risk models) then they are all likely to end up with similar portfolios; they are therefore likely to react to a price shock in an individual asset by making similar trades. They herd unintentionally, and this collective action

invalidates the assumptions on which the hedging strategies are based (Persaud, 2001).

- The credit risk of lending short-term is usually less than that of lending long-term. A prudent banker may prefer to lend short-term. If all banks lend short-term, however, they increase the risk of the borrower defaulting as a result of a liquidity shock.
- In a recession, an individual bank may protect itself by taking an aggressive attitude towards calling default and repossessing security. If all banks do the same, there is a credit crunch, aggregate demand falls and credit losses are increased.
- For calculating the market risk on trading items, banks and broker-dealers are interested in risks over very short horizons (often a day or less). Implicitly, the assumption is that the position can be closed out within the time horizon, so that if there is a prolonged bear market, someone else will bear the pain. Not all banks can close out at the same time, however. Regulators assume that firms can close out over ten days. Even this does not seem logically possible.
- When lending against collateral, bankers assume that they can exchange the collateral for cash. Yet, because default probabilities are highly correlated, when one bank is selling its collateral, others usually are too. The main form of collateral on which banks have traditionally relied is real estate. When combined with loans to development and construction sectors, this has often led to large indirect exposures to real estate values.
- Taking collateral reduces the loss to the lender in the event of default. But if a bank's assets are pledged to secured creditors, then the position of unsecured creditors (such as depositors) in the event of bankruptcy is worse.

In these examples, it is homogeneity that is the problem. Bankers wrongly assume that others' actions are independent of their own. Acharya's (2001) model suggests that capital requirements should be increasing in the correlation of banks' asset portfolios. This begs the question of whether international banks have become more or less homogeneous since 1988.

Conclusion

The modern rationale for bank regulation (eg Mishkin, 2000) emphasises asymmetric information, which automatically places limitation of moral hazard and adverse selection, and disclosure, at the top of the agenda. My discussion is consistent with that, but has deliberately emphasised number of asymmetries, and their externalities aspect. The market failures are severe. Moral hazard is everywhere. If externalities exist and are not internalised, then private risk is not social risk. There are externalities of strategy as well as of failure. There is no guarantee that the private optimum equals the social optimum. This is not a new story, but somewhere during the search for accuracy it appears to have been forgotten.

Reducing the asymmetries of information between banks and investors, and between banks and regulators, mitigates some of the problems but by no means all. It does not solve depositors' coordination problems, for example, or banks' internal governance

problems. A number of players do not bear the full consequences of their actions. With incomplete burden-sharing, traders may want more risk than their managers, managers more than their shareholders, and shareholders more than the regulators. Others bear part of the burden. Sometimes that is depositors and other bank creditors, sometimes those without a financial relationship with the bank.

Franchise value acts in the opposite direction. Many bank shareholders and managers have sufficiently strong incentives deriving from franchise value that they need little if any regulation for them effectively to internalise their failure externalities (they still suffer from organisational agency costs, however). Indeed, many banks choose to hold capital vastly in excess of their regulatory minima. Some banks have high franchise value and do not need much regulation because the value of the franchise exceeds the put option value of limited liability and deposit insurance; others have low franchise value and do. The private optimum may be higher than the social for some banks and lower than the social for others. As competition has increased, the proportion of the latter has increased in many countries.

In my view, some of the largest banks are quite likely to have an excessive risk appetite. Of course, the largest may benefit most from supranormal profits derived from market power, and many large banks make large profits (if one believes the accounts). As competition has increased, this source of supervisory comfort has diminished to some extent. Franchise value falls as competition increases, and some have argued that falls in franchise value caused by increased competition can explain much of the increase in risk-taking that usually follows deregulation (Keeley, 1990).^{24,25} The largest banks operate most closely to their regulatory minimum requirements, and they indulge most in capital ratio manipulation. It is their failure that poses much the greatest threat to others, especially to non-creditors, so that even in the absence of a safety net, market discipline would be insufficient. Their behaviour externalities are larger. The largest also benefit from too-big-to-fail expectations. The market does not discipline them because it expects the bank to be bailed out. Managers, too, in many countries may reasonably expect to keep their jobs in the event of solvency support, in which case franchise value has no beneficial effect on risk-taking. In any case, even if desired (economic) capital does not often fall below regulatory capital, it is not safe to rely on the two concepts being equal

When objectives and payoffs differ, there is no reason why bankers and regulators should be able to reach a common understanding. It is quite conceivable that even a well-run bank will have a risk appetite that exceeds the tolerance of the supervisor. The only common understanding to be expected is that objectives differ. Regulatory capital requirements and supervision then have a different role from that in the Estrella model.

- The case in which regulatory capital constraints are binding should not be seen as “pathological”, nor indicative of regulatory error. Supervision is not just about dialogue and mutual understanding; it is about cajoling bankers into doing things they do not want to do.
- *Improving (private) ‘risk-sensitivity’ of regulatory capital does not necessarily improve incentive-compatibility.* Yet incentive-compatibility is the appropriate goal. It is not that sensitivity to private risk is bad in itself, but an approach that takes the externalities to be proportionate to the banks’ own estimates of risks is.

‘Accuracy’ has been overvalued in comparison to the other virtues of simplicity, enforceability and comparability.

Although this problem may apply even to the simpler, ‘standardised’ approach to some extent (eg in the cyclical nature of capital requirements), it applies much more to approaches that rely on banks’ internal measures. Regulators must confront the problem that bankers have no reason to build models that measure the risks of interest to the regulator. Thus the 1996 Market Risk Amendment (BCBS, 1996a) sets certain quantitative standards for the use of value at risk (VaR) models. For example, the VaR estimate must be calibrated to a 10-day horizon, and a high level of confidence (99%, and a multiplier of at least three). Bank managers are concerned with shorter horizons and less extreme events (and the most common methodologies are better at measuring less extreme events). The quantitative standards drive a wedge between internal and external use, and give incentives for regulatory arbitrage. The higher the regulatory standards, the greater the incentive for arbitrage.

7. A critique of practical supervision

Estrella (1998) says that “contact between the firm and its supervisor ... can help eliminate any differences of opinion that may arise... The supervisors would also ensure that the views of the firm are consistent with the public goals of systemic safety and soundness, and that there is no attempt to take undue advantage of elements of the financial safety net, such as deposit insurance.” But how?

In this section I give a tentative explanation of how supervision works and how it fails. I argue that the effectiveness of supervision depends sensitively on the incentives on supervisors to supervise properly and the incentives on bank managers to listen. Supervisors may be honest and competent (and they usually are) or they may not. I list some twisted incentives that supervisors may face. Supervisors’ effectiveness also depends on their power. Finally, I ask whether supervisory practices are as easy to change as proponents assume.

However, first I should set out the advantages of supervision (beyond those implicit in the fact that it is not rules). These are, I think, twofold.

First, the risks in banking are multi-dimensional. Not all of the risks are quantified, or with current technology, quantifiable. Supervisors believe that qualitative assessment can outperform automatic assessments made using only the numerical data.

Secondly, capital is a form of general insurance, albeit one with a maximum payout. Whatever the risk, if it crystallises into loss, it is first absorbed by capital. However, risks differ: some, such as losses on credit card lending, or reconciliation failures, are fairly common and predictable. The ratio of expected loss (mean) to unexpected loss (dispersion) is high. Some other events are rare, but catastrophic when they occur. It is often better to insure the latter risks by some instrument other than capital (eg by hedging, or by true insurance), or to reduce the probability of the risk translating into loss (eg by improving systems and controls). Supervisors often prefer to see improvements in risk management - which effectively reduce a bank’s risk in relation to its capital, but do not show up in the risk-asset ratio - to an increase in capital.

Supervision therefore has the potential to serve as a valuable complement to rules.

Effective suasion

Let us assume for the moment that supervisors act in the public interest. How does the magical process of suasion work? And what carrots and sticks do supervisors use? The persuasive tools are manifold, their use subtle, and their effects ill understood.

The incentive effects of supervision depend critically on the fourth – action – step of supervision, and on bankers’ expectations concerning this step. Supervision is not a game against nature. It is a strategic interaction with no known end. As Schelling (1960, 13) notes: “Deterrence is concerned with influencing the choices that another party will make, and doing it by influencing his expectations of we will behave. It involves confronting him with evidence for believing that our behaviour will be determined by his behaviour.”

In order to understand how supervision may work, we must consider the set of possible actions available to a supervisor who has completed an unfavourable (or a favourable) risk assessment. In considering whether these actions are effective, one needs to consider the incentives on the bankers concerned. Finally, supervisory threats should also be credible, and in this case it is the supervisor’s incentives that matter.

Under the 1987 Banking Act, the Bank of England enjoyed great discretion and vague objectives.²⁶ In my early days as a bank supervisor at the Bank, I believed that we effectively had one stick with which to threaten – revocation of the banking licence. By employing the oracular language of the expert central banker, the supervisor minutely changed the subjective probability attached by bank managers to use of the stick. We followed Theodore Roosevelt’s advice to “speak softly and carry a big stick”.

But the threat of revocation would have no credibility with large banks, which consider themselves to be too big to close. For them, the subjective probability of revocation is vanishingly small. The reality is, of course, more complex, and other threats are possible.

Supervisory actions mentioned in the Basel2 consultation papers include increased monitoring; requiring improvements in risk management and controls; and additional capital. The first and last are true threats, since they impose costs on banks. The second is not: a threat is needed for the requirement to be enforceable. In any case, the list is incomplete. A number of threats may be implied, not all of which have their basis in statute. They include:

- the ‘Governor’s eyebrow’
- warnings
- increased supervisory intensity (more on-site inspections, reports, audits)
- higher capital and other regulatory requirements (eg ‘trigger’ ratios, liquidity ratios)
- naming and shaming
- fines
- personal humiliation
- replacing management and/or directors

- revocation/restriction of banking licence.

I am not aware of any formal assessment of the relative advantages of each. In any case, it would not be optimal to create rules prescribing which option to use. Each problem has different symptoms and aetiology. The effectiveness of each action will vary markedly according to the financial position of the bank and the bankers in charge, and on the personalities involved. Supervisors should use the available tools differently in each case. Instead I offer three brief comments.

- Varying the frequency and intensity of visits in response to assessed risks is both an efficient use of supervisory resources and an incentive device in its own right. Supervisors may have the power to make life miserable, especially for senior management, who bear most of the burden of supervisory attention. But is it fair? I shall return to this question later.
- If supervision is to be incentive-compatible, a bad risk assessment, must result in an unfavourable outcome for bank management. When a regulatory assessment is downgraded, someone will have to explain this outcome to an unhappy Board of Directors at the bank concerned. In order to avoid this experience, the person concerned has a strong incentive to follow the supervisor's suggestions. Although it forms no part of law and is not the intention of a risk assessment, the threat of personal humiliation is an extremely powerful side-effect.
- If a supervisory response is too effective, there is a danger that the supervisor becomes a shadow director, acquiring additional legal responsibilities incompatible with those of a supervisor.

Supervisory failure: introduction

Supervision imposes costs, both direct and indirect. It needs to achieve benefits that exceed the costs. Supervision may fail:

- because supervisors do not have enough information
- because supervisors are not sufficiently skilled, or are skilled but make mistakes
- because supervisors have too little power (or too much)
- because supervisors have incentives not to act in the public interest.

The result may be that supervisors:

- are excessively kind or excessively harsh to all their banks
- are inappropriately kinder to some than to others
- behave in ways that are subject to inappropriate change or stasis.

This section will mainly focus on supervisors' incentives, with a short discussion of mistakes.

Daniélsson et al. (2001), among others, raise the question of supervisory resources. Supervisory agencies must have sufficient resources to be able to make an assessment, decide on a set of actions, and try to enforce improvements. This requires both numbers of staff, and skills. These are often in short supply. Shortages of human capital may be

exacerbated by institutional restructuring: skilled supervisors may prefer to stay at the central bank, or in Bonn. Supervision involves bargaining, and each individual regulatory decision tends to matter much more to the bank than to the regulator. Regulatory reputation can be a mechanism for regulators to commit to bargaining hard, but it may be too costly to acquire. Banks can produce voluminous counterargument requiring many person-days' work, and so can swamp supervisors. If decisions require due process, and due process is resource-intensive, then resource constraints are likely to bind and decisions cannot be made or implemented. Resource constraints are also likely to bind when demand for supervision grows rapidly, as is often the case after liberalisation. Russia and Indonesia, for instance, experienced a flood of entrants in the 1990s. An obvious solution is to charge banks the marginal resource cost of the bargaining process, but this may be impossible given the funding structure of the agency (if the agency is funded by non-interest bearing reserves at the central bank, or by general taxation), or it may simply be seen as unfair. Supervision may also be too weak because supervisors do not have legal and political power.

No matter what the level of supervisory resources, supervisors inherently know less about a bank than the bankers. When the objectives of bankers and supervisors differ, bank managers will want to withhold information or distort it (Estrella, 1999). Managers will wish to take advantage of anything left undefined in the rules to maximise capital and minimise capital requirements. Both when reporting to regulators and in statutory accounts, they have incentives to underprovision, overvalue assets and collateral, and reclassify unpaid interest as a new loan, rather than declare them non-performing. Just as most men claim to be of above-average intelligence, all bank managers tell their supervisors that they have a low risk appetite and strict controls. They cannot all be right. Signalling incentives are worse when there is a higher likelihood of the supervisor taking adverse action. So, for example, there are also incentives to cheat by distorting a model so as to ignore certain risks or lowering the effective confidence interval, and these are stronger when regulatory constraints bind (Milne, 2001).

Supervisors may apply standards that differ inappropriately across firms, or are inappropriately identical across different firms. This inconsistency may arise, for example, because some firms are more powerful than others, or because different supervisors have different approaches, or because some supervisors but not others are captured by the regulated.

Supervision requires individuals to exercise skill, to make judgements under uncertainty and extreme complexity. When relevant information relating to a bank's risks is 'soft', a high degree of delegation to the individual supervisor is necessary (Berger and Udell, 2002, write in the context of banks, but the arguments are the same). Two people of equal skill faced with the same information may come to different conclusions. This exacerbates agency problems, and while monitoring structures (manuals, review panels etc) can limit individual discretion, there will always be individual differences.

A third problem is inconsistency of supervisory intensity over time. The usual example of 'time-inconsistency' in the sense of Kydland and Prescott (1977) is forbearance. Any supervisory threats to act otherwise than consistently with the incentives in place at the time will not be credible without some form of binding of the hands. Risk materialises into losses well after it is first assumed, and supervision has lagged effects. The later the

intervention, in general, the more costly the problem. Supervisors should thus intervene well before the bank is going bust (BCBS, 2002). Regulators may, however, have undesirable incentives when a bank enters financial distress to collude in covering up the problems in the hope that time will heal. Since there are many subjective items in a bank's reported capital adequacy position, it is easy to manipulate. Forbearance often results in banks being permitted to report inflated asset valuation; this is particularly likely once the bank has received public assistance.

Because of banks' sensitivity to confidence effects, bank supervisors are often wary of using tools that undermine confidence in the bank. In bad times, regulators are wary of the effect of market discipline. Franchise value is the regulator's friend, and relatively small failures can undermine value. In 1994, Bankers Trust was sued by four major US clients (among others). Internal tapes produced in court revealed a cavalier attitude to client welfare within the bank. Bankers Trust's franchise effectively disappeared, and the bank was acquired soon afterwards. In 1996, NatWest Markets booked a £91mn loss on revaluing interest rate options that had been previously overvalued, a loss that was easily absorbed by NatWest's annual profits, but the loss severely damaged the bank's reputation and thereby its franchise value, put paid to its global ambitions, and arguably contributed to its loss of independence. At worst, coordination failures can lead to 'sunspot' runs even for the solvent, pure liquidity runs could be more likely, the worse the fundamentals. Transparency does not mitigate these coordination failures (Chui et al., 2000). Bank supervisors, not surprisingly, name and shame their flock less frequently than non-bank supervisors. Even when part of the regulatory armoury, fines and public reprimands may not be credible.

In the four-step model of supervision, this amounts to a distortion or elimination of the fourth step ('act'), expectation of which affects previous actions by bankers and supervisors. One effect of such forbearance is that current depositors are protected at the expense of potential future depositors. Forbearance has been widely blamed for staggeringly costly crises in the US and Japan, and legislators have responded to this argument by requiring that supervisors act harshly as banks' positions decline in order to economise on later, greater costs.²⁷ The flip side of forbearance, of course, is the ability to use discretion to improve on the prescription of a rule, eg to smooth the effects of a crisis.

The time-inconsistency problem also applies to precommitment approaches to bank capital (Kupiec and O'Brien, 1995). If regulators have incentives to refrain from punishment in the event that things go wrong - and since banks have limited liability and bank failure is costly, they generally do - precommitment is not negotiation-proof.

Lack of credibility can also be more subtle. The Federal Reserve instructed its money centre banks to be ready to use the VaR approach to market risk by January 1998. The banks had to achieve a standard that was high enough to receive model recognition. They did not have alternative systems that could have allowed them to use the standard approach if their model standards were judged inadequate. The consequences of banks failing to receive recognition would have been severe for both parties, and so the threat arguably lacked credibility. While fully intending to set high standards, the regulators did not give themselves the power to enforce them.²⁸

Just as frequently, supervision varies over time for other reasons, by mistake for example. Just as the power of rules is eroded over time, the power of a given standard may fall over time. Qualitative standards are arbitrary, and can be eroded as banks expend resources on unproductive innovations designed to beat the regulator; alternatively, standards in the industry may rise, in which case supervisors' expectations will increase. Regulators also need precedent as a source of consistency, but institutions may forget as staff move on, as memos are irretrievably filed, as regulatory structures change. Alternatively, Confucian regulators, bound by precedent and habit, may be overtaken by events.

Error

Information acquisition and processing is costly, and so rationality is bounded. Communication is inevitably imperfect. It can be optimal in these circumstances to use rules of thumb to 'satisfice' (Simon, 1957).

Supervision requires real expertise, to sift evidence and choose the best response. One operational definition of skill is the extent to which a decision-maker uses relevant evidence, discards the irrelevant, and produces a well-calibrated forecast or estimate. Skilled people do this better than unskilled. But even the most skilled decision maker makes judgements that are inconsistent and badly calibrated.

We cannot help but hang on to superstitions. Formal notions of falsification came rather late to science, which had managed to explain and predict much natural behaviour (rejecting, for example, heliocentrism and phlogiston theories along the way) by the time J S Mill discussed the need for elimination as a method for inductive proof (1843), and Popper (1934) formalised into a criterion for theory acceptance. This may be because falsification is counterintuitive. Peter Wason's experiments with the four-card problem devised in 1966 (Wason and Johnson-Laird, 1972) showed that a very large majority of people naturally fail to seek evidence that might disconfirm the hypothesis; most look for evidence that confirms. A more natural approach to induction seems to be 'simple enumeration' (Mill), generalisation of an observed fact from the mere absence of any known instance to the contrary. Even when disconfirming evidence exists, evidence that confirms a hypothesis is often more highly weighted in internal evaluation than evidence that disconfirms. People prefer cognitive dissonance to improving their mental models. We often have too much confidence in our own judgement (Einhorn and Hogarth, 1978).

Moreover, supervisors need to have job satisfaction, particularly when, as in most countries, they are paid less than are people of comparable skills in the banks that they supervise. They need to believe in what they do. Supervisors are therefore highly motivated to discard evidence any evidence that their practices are maladaptive. One might call this 'motivated overconfidence'.

It is important to introduce institutional mechanisms that seek evidence of maladaptive practices in order to overcome the contrary bias. In other words, supervisory agencies should test whether the acquisition of information, risk assessments and supervisory actions (steps 2-4) are optimal. A decision-making algorithm should learn from experience. In order for learning to be possible, there must be feedback from action to outcome, the ability to rearrange cases so that hypotheses can be verified or

disconfirmed, the ability to estimate the accuracy of one's hypotheses (eg to estimate a standard error and a confidence interval).²⁹

This is not easy. The experimental way to test the hypothesis that Action A is the best response is to try other actions believed to be inferior. This approach may be incompatible with a narrow reading of the agency's statutory responsibilities, so that it is impossible to rearrange cases. Statistical methods, formally constructed to favour rejection of hypotheses, may be used. However, observation is not objective, but selective. Observers' biases affect the results. Overinterpretation of data is a common flaw. In scientific research, negative results are often suppressed by the author or by potential publishers. Scientific 'knowledge' is not infallible, and supervisors are not scientists.

The third step of the supervisory process, risk assessments, generally produces ordinal predictions of risk (eg an alphanumeric rating), possibly with an estimate of direction. The Canadian OSFI, for example, uses a scale of 0-4 for each institution. It should be possible to test at least the predictive power of the ordering. OSFI examines the number and explanation of what it calls 'surprises' (large supervisory rating changes), for example. However, data problems are severe. Regulatory risk assessments and actions are often secret, and so public data are insufficient. Even within the regulatory authorities, collecting information in a consistent and testable form without truncating the sample can be impossible.

There is a widespread belief, which I share, that a framework containing subjective assessments should be able to outperform a purely numerical model. Although such inferences naturally remain prone to error, half an hour with senior bank management tells the experienced supervisor more about risk management attitudes and standards than a day wading through incomplete and rapidly obsolescent financial data.³⁰ Rating agencies and bank lenders, too, usually add discussions with the debtor/issuer to their analysis of financial data.

Some authorities may use automated decision tools. The French Commission Bancaire uses several. Its SAABA model is supposed to mimic a human decision-maker (Commission Bancaire, 2000). It incorporates subjective inputs by supervisors. Such imitative models should have the advantage of eliminating inconsistency in response to given inputs. 'Bootstrapped' computer models designed to mimic the decisions of a skilled decision-maker, by eliminating inconsistency, outperform the decision-maker (Dawes, 1979).

Regulatory agencies have focused on improving the first three steps, not least for the sound reason that it is easier. The link between the fourth step – supervisory action - and the banker's response is, in my view, the weakest. This is what FSA (2002) describes as the link from 'outputs' to 'outcomes', which defines 'effectiveness'. It is the key to suasion. If the response to a risk assessment does not elicit the right response from the bank, supervision fails.

It is very difficult to know what effect supervisory action has. Since there are many possible explanatory variables, competing hypotheses cannot be reliably distinguished. The idea that for every supervisory action there is a reaction is a tenet of supervision, but has no empirical basis of which I am aware. One of many implications of this is that

agencies and individual staff are assessed by input rather than output. There is no performance evaluation; consequently, different actions cannot compete against each other. Since there is little feedback from actions to outcomes, bureaucratic inertia is exacerbated. The supervisor only knows what he did before, and wants to assume that it worked.³¹ It is conceivable that some of the time, supervisors behave like Skinner's pigeons (1948), repeating entirely ineffectual tics.

As recorded in FSA (2002), some supervisory authorities are taking steps to reduce this ignorance. OSFI carries out self-assessment of the effectiveness of intervention activity (FSA, 2002, 16), using posterior bank behaviour rather than failure as the indicator. In the US, the OCC have also looked at the subject, apparently, but no further details are given. The UK FSA is introducing a programme in which supervisory 'risk mitigation programmes' are to be monitored (by self-assessment) against bank behaviour, and published in aggregate. Of course, self-assessment creates signalling incentives.³² However, the point of this discussion is not to criticise these valiant attempts, but to point out that even leading authorities have little idea about supervisory effectiveness. Most supervisory authorities have no idea at all.

Many of the bureaucratic control mechanisms within supervisory authorities are designed to reduce these sources of error, but they are costly in themselves and cannot eliminate all errors or inconsistencies. In almost any situation it is almost inevitably unclear to a supervisor what to do. No supervisory handbook can specify the correct response in all cases; hence the need for skill. Room for manoeuvre exists whether or not the legislative regime appears to allow discretion, and indeed the heterogeneity of circumstances favours the use of standards rather than rules (Kaplow, 1992).

Similar problems, of course, apply to all complex social tasks, including bank management. But they do mean that in a task as complex as supervision, 'incompetence' is not restricted to the lazy and unskilled. Supervisory assessment requires the processing of large quantities of information and a choice between a large number of possible actions, under great if not complete uncertainty about the effect of each action. When learning is nearly impossible, when throwing away cherished beliefs is aversive, and when supervisors want to believe in what they are doing, supervisors will persist in using flawed rules of thumb. In such circumstances, every decision is subject to error.

Objectives

Supervisors generally try to protect depositors and the financial system. Each agency is likely to have other official objectives. The most obvious examples are:

- social equality objectives, as in the Community Reinvestment Act in the US or the FSA's non-statutory social exclusion work in the UK;³³
- subsidising interest groups. Small and medium-sized enterprises (SMEs) have great political influence, especially in Japan and Germany. Chancellor Schröder has threatened a veto unless SMEs receive more favourable treatment. The Basel Committee has now stated that lowering the capital requirements for SME lending is one objective of the third-round revisions;
- fiscal objectives: it is not uncommon for the state to repress banking systems, using them as a source of cheap funds.

Naturally, adding arguments to the objective function will generally produce a different constrained optimum. These extra objectives conflict with the systemic risk and depositor protection objectives and so may lead supervision to fail from the point of view of achieving these two objectives. If the extra objectives reflect the state's policies, and if the state has purely social goals rather than that of transferring resources to preferred interest groups, then they can be seen as additional ways in which bankers' incentives are aligned with the public's preferences. The cost to the consumer and the system is worth bearing. But these are strong assumptions.

Agencies are also bound by the commonly-accepted principles of administrative law, legality, subsidiarity, proportionality and non-discrimination (Giovannoli, 2000, n111). For example, in the US FDICIA prescribes the principle of least-cost resolution (subject to a systemic-risk waiver); in the UK, FSMA requires proportionality and cost-benefit analysis. If commonly-respected individual or group rights conflict with the objective of stability (or that of efficiency) then the objective must be compromised.

Sed quis custodiet ipsos custodes?

Supervisory agencies do not simply search for market failures and correct them.³⁴ Supervisors must be persuaded to act wholly in the public interest, and so there are agency costs. Supervisors face choices over how harshly to respond to banks; being tough is usually less easy than being lenient. The disutility of 'effort' induces moral hazard if effort is imperfectly observable. The economist's usual recommendation is to change the incentive structure by introducing monitoring and enforcement and by compensating the agent for the marginal cost of effort.

Remuneration structures are multidimensional. Employees may be rewarded for greater effort by cash payments, but performance-related pay is unusual in public agencies. If bonuses are paid, they are small. Career advancement can be an incentive. Bureaucrats also have fears, of loss of reputation for example. All reward or punishment is relevant to behaviour; not all is within the gift of the employer: banks, politicians and the press can affect supervisors' rewards.

One way of giving supervisors desirable incentives is to make them accountable for their actions. Accountability has different meanings. It can mean accountability within the organisation, resulting in remuneration, promotion, blame. It can mean accountability to an external monitor, such as the legislature. The regulator may be required to publish a rationale for decisions, and therefore in some sense publicly accountable. It can also mean personal legal liability.

It is important to note that performance-related reward is not inevitably superior to reward that is unrelated to performance. Oversight of bureaucrats is particularly difficult (Prendergast, 2001). Prendergast argues that, from 1998, improved accountability mechanisms and harsher punishments for malfeasance led LAPD officers to reduce their crime-fighting activities with the result that violent crime sharply increased. The optimal regulatory performance contract may be low-powered (Tirole, 1993).

Behaviour is also much affected by norms, both within institutions and within society more generally. Supervisors need not have explicit performance-related reward to behave in a way that appears superficially to be contrary to their short-term private incentives.

Their colleagues' expectations may themselves be sufficient to constraint behaviour, or supervisors may wish to invest in a reputation for integrity.

Even when decisions are made rationally, bureaucrats act under uncertainty, and error will arise *ex post*. This begs questions of whether the costs of error are symmetric or whether the asymmetry of any penalty might induce preferences for Type I or Type II errors. Police officers, for example, receive individual complaints for wrongful arrest but not for wrongful liberation, and that is why they respond with fewer arrests.

In bank supervision, reward and punishment may be nonlinear in two ways, which are not mutually exclusive.

First, supervisors may be punished when a bank fails. Supervisory success is not observable; bank failure is. Bank failure is a noisy signal: a bank's failure may not be indicative of regulatory failure, and regulation may fail without bank failure. In the case of supervision, the public data suffer from selection bias. Supervisors' successes cannot usually be published, while banks crash loudly. "Simply reporting the number of firm failures ... tells us very little on its own about our performance." (FSA 2002, 47). If the combined possibilities of regulatory success and failure, and bank survival and failure divide the world into four quadrants, the two quadrants describing bank survival are rarely examined. Not all factors relevant to a regulatory decision even in the event of failure are necessarily observable; a minimum requirement is that those calling to account review the information used by regulators in making decisions at the time (Kane, 1997). Those calling the agency to account must be aware of and correct for this bias. In order to do that, they must have the expertise to do so and the incentives to draw unbiased conclusions. The set of such people may be empty. Kane (1997) argues that academic and press commentators could force regulators to act in the taxpayer's interest, but that they do not in practice.³⁵

Punishment is not likely to be monetary. Bank failure is likely to trigger some public inquiry, itself a highly aversive experience for the objects of inquiry, and may result in individual blame, loss of job and reputation. Regulators accountable for bank failure alone are punished for under-regulation but not for over-regulation; naturally, they respond with caution. Regulators will apply high standards to reduce the risk of failure; they may close down solvent institutions rather than risk failure; and they may bail out rather than allow failure to reach the public eye. Harshness is not the only dimension of supervision. In addition, or instead, supervisors will also try to avoid being linked to decisions that could go wrong, which is to say all decisions. They may adopt an approach of putting nothing in writing to avoid an audit trail, which can be inefficient, unclear, and lead to corporate amnesia. They may also try to cover up or shift blame (Kane, 1997).

Secondly, supervisors may receive complaints from individual banks for being too harsh. Most supervisors will find this inherently aversive, although there may be some types that enjoy the fight. Much also depends on the appeal mechanisms. According to Rennhack (2000), in Argentina, Bolivia, Colombia, Guatemala and Venezuela within Latin America alone supervisors bear personal liability for the effects of their decisions.³⁶ I believe that the same applies in Austria, and in the Philippines at least.³⁷ Forbearance is then inevitable. In the UK, too, the right of banks to appeal against supervisory decisions that they consider unfair has been enhanced, largely because of legal uncertainty as to

whether a lack of appeal mechanism would contravene the new Human Rights Act. In Prendergast's (2001) terms, all this amounts to a shift from internal to external monitoring, and it can result in the reduction in the activity for which the bureaucrat is employed.

Supervisors are likely to respond in this second case by reducing the probability of complaints.³⁸ Since banks will not complain about excessive leniency, supervisors may simply be too lenient, in which case this form of accountability works in the opposite direction to the first. Bureaucrats will resolve this tension by refusing to use any discretion, by herding and by relying on rules, and by trying to cover up or denying knowledge of failures. Like equity analysts and fund managers (Scharfstein and Stein, 1990), supervisors do not expect to be punished for being wrong along with everyone else.

In either case, the decisive supervisor risks punishment while the ovine and the struthionine escape. Supervisors will not want to show up their colleagues by coming to different conclusions in apparently similar contexts, even where the similarity is misleading. Supervisory assessments of and responses to banks in similar categories are likely to be pretty similar. It is difficult to design incentives to counteract herding and to reward clear decision-making and taking of responsibility.³⁹

Political accountability can have either effect, too. Politicians have private incentives that distort their response to evidence relating to regulatory agency performance.⁴⁰ Parliamentary or Congressional hearings into bank failures are more than a disinterested quest for truth. In many countries, politicians are connected with banks and lean heavily on supervisors to support weak banks.

Accountability to the executive can generate similar problems. As a result of selection effects, senior officials tend to value power and status rewards at least as highly as money. Many of these rewards are in the gift of the government. If the chief supervisor is replaced or garlanded at the whim of the head of state, then the legal independence of the institution is *de facto* weakened.

Regulatory capture/collusion

Auditing scandals are as often as not caused by conflicts of interest rather than incompetence. The failure of Andersen to produce true and fair accounts⁴¹ of the financial position of Enron appears to be an example.⁴² As non-audit revenue has grown in importance to accounting firms, so too has the incentive to do what the client rather than the user of the statutory accounts wants, ultimately to the detriment of the industry's reputation. Such conflicts of interest are not inherently as stark in supervision, but banks too may reward their supervisors. Supervisory organisations and supervisors may be captured so that they act in the interests of the regulated. Since supervision involves dialogue and negotiation, it is difficult to distinguish between open-minded, responsive supervision and capture.

Banks derive large benefits from favourable supervisory decisions, and it can be highly profitable for them to invest in lobbying and outright bribery. Many regulatory organisations impose rules on their staff, limiting the benefit of any gifts or entertainment received; it may also be illegal to trade government favours for cash. Agencies also

screen their staff at recruitment in order to exclude those most likely to be led into temptation,⁴³ and they try to foster a culture of integrity.

But cash transactions are an unsophisticated way to acquire influence. Banks and supervisors are more likely to exchange favours. Banning lunches, as some agencies do, may limit gross partiality but cannot eliminate favouritism. Favouritism may arise as a result of purely personal preferences, or it may arise because the supervisor and the banker have bonds that cut across institutional boundaries. They may both be Freemasons, members of the same political party, or alumni of the same higher education institution, and in these cases the supervisor has a conflict of interest.

On the other hand, close relations between supervisors and their banking contacts can be seen as an efficient solution to the problem of information revelation. Supervision proceeds from the assumption that both parties are honest and act in good faith. Regulatory treatments result from a bargaining process. A bank may go to some effort to help the supervisor in one case on the implicit understanding that the supervisor will be more sympathetic in the future, and this need not be improper. Supervision requires information, most of which comes from the supervised bank and much of which remains private between the regulator and bank (hence much of the confusion among some commentators about what is meant by ‘disclosure’ in the new regime). The optimal supervisory response to bad news balances the need to be friendly in order to get more information early, and the need to punish. The friendly supervisor knows more about the bank but finds it harder to act on the knowledge. An informal hierarchy of reactions of varying severity is likely to elicit more information than when there is only one nuclear option and a risk of triggering it with every revelation. As in criminal justice, a general rule that confessed failures are more lightly punished may have useful incentive properties, but such a relationship may appear rather cosy.

Career aspirations are another cause of capture. For many public sector staff, career aspirations are internal to the profession: doctors do not aspire to be patients, and policemen seldom resign to become criminals. However, while some bank supervisors may have internal promotion aspirations, they more commonly plan to move across into the banking industry, which provides greater monetary rewards for a given set of skills. The tradition for top Japanese bureaucrats to end their careers in the industries they administered was so common that it has a name: ‘descent from heaven’. (I believe that Japanese FSA officials cannot now go and work in the banking sector for a number of years after leaving the FSA). There are many precedents in most countries of senior central bank or bank supervisory officials moving to senior positions in the banking industry, and even more of middle and junior staff moving across to the private sector. But such aspirations can weaken, not to say eliminate, supervisors’ incentives to supervise.

However, the expectation that the banking industry will value the skills acquired at the regulatory agency is critical to successful recruitment by regulators. So in the design of re-entry limits there is a trade-off between being able to recruit skilled people at below-market rates and giving them the incentive to be tough (see Brezis and Weiss, 1997). Agencies could also try to recruit people without aspirations to work in banking, but this is difficult to observe in interview, and few are the people who will invest in acquiring knowledge of banking without wanting to work in banking.

A single prisoner at senior level could have pervasive effects. Typically, disagreements escalate within both organisations. At each escalation there is the option for either side to give in. The cost of management time and attention increases with each escalation. It can be seen as a war of attrition. Attrition games may be solved by backwards induction; top officials define the culture of a supervisory authority just as top bankers set the compliance culture. If they enter into informal compacts with their banks, more junior staff will have few persuasive powers. They know that if a disagreement escalates, they will lose. They have no reason to press their point, and so they back down or do not bother to make the point at all.

If some interest groups have much more power than others then requirements to consult before issuing rules are not an unambiguous benefit. In banking, producers of financial services have infinitely more power than consumers. In the extreme, consultation can be a means for the regulated to control regulation.

Supervision and change

If change renders rules obsolete, it has the same effect on supervisory practices. A central plank of the argument in favour of supervision is that supervision is less costly to change than regulation.

This seems obvious, and it is probably true most of the time. Some types of innovation cannot be corrected by 'small' changes in rules, but require a fundamental redesign. Two examples from the current regime are the definition of the trading book, and the distinction between specific risk on fixed income instruments and credit risk. These two are also the sources of many hard cases. For many instruments, both a trading book and a banking book approach have serious flaws,⁴⁴ and there is a role for supervision in preventing an excessive concentration of exposure to such instruments. On the other hand, since qualitative standards are defined in their usage, the standards can effectively change over time without having to be rewritten (Kaplow, 1992). They can 'learn' continuously.

However, regulatory agencies do not allow supervisors free rein, but use supervisory frameworks to reduce consistency and increase the quality of decision-making. When faced with a new issue, it is good practice for an agency to send out a team to several institutions, research the new issue, find out how the risk should be managed at well-run institutions, promulgate these guidelines both within and outside the agency and train the supervisors if necessary. This is costly and time-consuming. In any case, bureaucracies can possess so much inertia that they distort local space-time. Herding is inimical to experimentation and hence to innovation. Certain issues, such as Y2K, are inherently temporary, and if it is slow to change, supervisory practice can miss the boat. In some cases it may be quicker and more efficient for a supervisory agency to change the capital rules, or to do both at the same time.

Conclusions

Both the supervisory and the anti-formalist approaches have underemphasized the problems associated with supervision. Supervision is like a chain. A single problem – capture of a senior individual, for example – may cause the whole structure to fail. It is therefore very difficult to design a regime in which supervisors have both the incentives

and powers to act in the public interest. Once the costs of supervision are taken into account, the optimal weight to be placed on supervision is lower. The minimum possible weight may in fact be the best.

Does accountability lead to excessive or insufficient standards? Is there too much or too little supervision? The answer to that will vary across countries. In general, I believe that regulatory capture and political weakness are severe problems. Big banks possess more political power than supervisors in most countries, and so are too big to supervise. Legal problems in many countries restrict the powers and effectiveness of supervisors. Moreover, leniency is magnified by regulatory competition, which I discuss in section 9. In general, supervision is too weak.

In its dismal emphasis on government failure, the analysis has much in common with that offered by laissez-faire commentators. It is fashionable to argue that regulators should facilitate market discipline as a partial substitute to regulation (see for example Mayes, 2000; Carr, 2001). They should require greater public disclosure in order to reduce the asymmetries of information. Some go so far as to argue that holders of subordinated debt should do the work of regulators.⁴⁵ My conclusions are quite different. Although regulation and supervision have their flaws, the market failures that justified regulation in the first place remain severe. If we claim that technocrats are irrational, blind and greedy, we must recognise that bankers and other market participants are too. That intervention is not terribly successful, therefore, is not sufficient reason to rely on something else that will not be successful. All three pillars have problems, and these are inevitable.

8. Rules, standards and principles in banking regulation

In this section I discuss the implications of the shift from rules to standards and principles. I refer to three distinct types of constraint: formulaic rules, qualitative standards and principles. (In practice, the categorisation of particular examples may be difficult.) I distinguish on the one hand between rules and principles. Rules are either binding or they are not. Principles are not binary but have weight. I also distinguish between vagueness and precision: formulaic rules are precise, while qualitative standards and principles are more vague, although this is a generalisation.

Our commercial lives are full of rules, regulations and standards.⁴⁶ Only Freeman of the City of London may drive livestock over the bridges contiguous to the territory of the Corporation of London.⁴⁷ Beverages containing more than 1.2% alcohol by volume must indicate the percentage alcohol by volume, determined at 20°C, but to no more than one decimal place.⁴⁸ To qualify to be labelled as chocolate in the EU, chocolate products must have a minimum content of cocoa fats; British milk chocolate does not qualify and is called 'family milk chocolate'⁴⁹ in order to protect the consumer desirous of maximising her cocoa fat intake.

Those bound by *rules* may reasonably be expected to know what is required of them in particular cases. It is possible to tell whether a drink has been labelled correctly; if a person is driving livestock over a bridge, it is possible to determine whether this person is a Freeman of the City of London and whether the bridge is one of the relevant bridges. Formulaic rules may be enforced without human judgement, and human judgement is not needed to verify whether a formula has been enforced, if the inputs are verifiable.⁵⁰ As

Estrella (1995) points out, this means that not only courts but auditors and market participants can verify the rules if they know the inputs.

In banking, rules include limits and proscriptions on business, such as those formerly separating commercial and investment banking in the US under the Glass-Steagall Act; capital adequacy requirements, and sometimes conduct of business rules. If we assume, that there is no ambiguity in the definitions of capital or of risk-weighted assets, then the capital requirement is merely a formula: capital must be greater than 8% of risk-weighted assets.

However, this assumption would be invalid, since not all definitions used in the banking rules are clear. In the case of the capital adequacy rules, the definitions of 'core' and 'supplementary' capital have turned out to be fuzzy, so that regulators are required to judge whether a particular form of subordinated liability qualifies as one or the other, or neither. Nor is the definition of the trading book objective, based as it is on unobservable 'trading intent'. Verification of mark-to-model valuations and of provisions is difficult, and so auditors and supervisors prefer to check procedures rather than outcomes. The definition of capital requirements therefore contains some subjective elements, and the definition of capital rather more.

Precise, quantitative capital adequacy rules and potentially vague definitions are supplemented by *qualitative standards*,⁵¹ which are by nature less precise. When it is not possible or appropriate to prescribe a general formula in advance, the law often relies on a standard, which does not have to be defined in advance. Section 9(2) and Schedule 3 para. 4 of the Banking Act 1987 required as a condition for authorisation that the bank could be expected to conduct its business in a 'prudent' manner. The Banking Act specified that prudence could not be taken for granted unless a bank were expected to maintain 'net assets' and other financial resources commensurate with the nature and scale of the operations. The definition of 'commensurate' (and of 'financial resources', for that matter) was left to the Bank of England, which had ready-made definitions to hand. Prudence is a qualitative standard, not an objective one; someone must judge whether a banker is behaving prudently, and so greater skill is required than is required to judge adherence to formulaic rules. Indeed, Kaplow (1992) distinguishes between rules and standards solely according to the extent to which efforts to give content to the law are undertaken before or after individuals act.⁵² The simplicity or otherwise of standards, unlike rules, is not fixed *ex ante*; a simple standard may be interpreted by very complex procedures, and indeed this is how supervision works. EC Directives also include qualitative standards; there are several for example, in CAD2.⁵³

Principles, even if they are framed as law, do not strictly bind in themselves. They are more general expressions of goals (such as efficiency) or rights (such as a right to privacy). High-level principles can define the intent as well as the detail of the law, and make it easier to decide what to do when the law is silent.⁵⁴ Principles can define ends without prescribing means. In international agreements, countries may share the objectives, but they usually prefer different means of achieving them. Sets of principles are very commonly used by international standard-setters, precisely because they require interpretation and because countries are different (FSF, 2001 heroically narrows down those relevant to financial stability to twelve 'key standards'). In the UK, too, the FSA is bound to have regard to certain principles in its rulemaking.⁵⁵ But generality must have

its limits. Indeed, general rules that are not themselves susceptible to reasonable interpretation by the people to whom they apply may violate the right to due process (eg, Article 6 of the European Convention on Human Rights).⁵⁶ General principles do not provide sufficient clarity. In interesting legal cases, they can conflict.

Both by design and by accident, the capital adequacy regime requires regulators to make judgements. It is therefore not possible to distinguish simply between precise (Pillar 1) rules and vague (Pillar 2) supervision. The distinction between a formulaic rule-based approach and a more subjective standards-based approach is at least as important.

Supervision and rules

Estrella correctly points out that the complexity of banking presents a challenge to regulation, but complexity is also a challenge for supervision. I mentioned above that supervision is difficult to describe. In fact, both banking and supervision defy specification. Consider an analogy with football (soccer). The rules of football are designed to be clear and unambiguous, and referees enforce the rules. In practice, however, the rules also include qualitative standards (interfering with play while offside, intentional handball, intentional foul), which referees must interpret; this is partly why referees can be bribed.⁵⁷ Referees have no power to make rules, but a good referee sets standards early in the match that make it clear to the players how the rules will be interpreted. Enforcing capital adequacy formulae and standards is rather like refereeing.

Supervision is more like coaching. One could try to write down rules for playing well ('when in a tight corner on the wing, the player must try a Cruyff turn to beat the marker'), and rules for teaching people how to play well. Such rules would certainly be incomplete, and, if prescribing a pure strategy, self-defeating.⁵⁸ General principles of good play are better. There are indeed books that describe the skills of football and some principles of play, and there are books that describe principles of sound risk management in banking (eg Coopers & Lybrand, 1997, which contains 89 such). They cannot describe all the possibilities, only provide general principles that may or may not have weight in each particular case. Moreover, the rules of football are common, but styles of play are different.

One could also try to write down rules for supervising well, but any attempt to write a complete prescription for supervision is doomed to failure for the same reasons. Incomplete descriptions and guidance, on the other hand, are not only possible, but useful, and supervisory agencies rely heavily on supervision manuals.⁵⁹ Supervision is therefore difficult to build into domestic law or international agreements as rules, except at a high level of generality that leaves implementation open to a great deal of interpretation and requires a subsidiary set of explanations.

The Basel 'principles' of supervision recognise the true complexity of supervision. They are appropriately hortatory; their wording implies that exceptions are permissible without specifying what those exceptions might be. So they really are principles rather than rules. They cannot by themselves be considered to provide much of a legal constraint on behaviour. Pillar 2, therefore, is a different animal from the current (Pillar 1) Accord.

Hard cases

Rules seldom provide a complete prescription for all possible states of nature. If they do, they are likely to be too inflexible or too complex. Precise rules are costly to make. They also encourage a legalistic mindset in the regulated, who focus on the letter and not the intent of the law. Optimal rules are imperfectly precise, and leave some room for flexibility. All countries have their share of ambiguous laws.

Rules may conflict or leave gaps, creating what Dworkin (1978) calls 'hard cases'. A judge, as the name implies, must use judgement in reaching an interpretation. He must think outside the rules themselves. He is likely to consider the goals of the rules, that is to consider the relevant principles. The principles may themselves conflict, and the judge must decide how much *weight* to place on each. Dworkin argues that a judge has *weak* discretion; he is not entirely free to make law but must consider only principles relevant to the case. If rules conflict, one of them has to give way, so that one rule supersedes the other, or one rule grants a waiver in some circumstances. Rules also leave gaps in a way that principles need not. Rules, standards and principles therefore all need interpretation or adjudication. Within a single jurisdiction, it is fair to presume that the agency with responsibility has authority to interpret. Legislators produce vague rules and, *propter hoc*, grant officials (weak) discretion to define them.

Institutions given discretion to interpret may voluntarily adopt (and often publish) codes constraining their own behaviour, which may also be rules. In the case of the Banking Act's requirement for commensurate financial resources, the Bank of England supplemented the standard with a detailed framework (published as 'Guidance Notes' but having the status of rules) indicating what risk measures would indicate adequacy (in fact it continued to use its risk-weighted assets approach introduced in 1980). A gap in the statute does not necessarily imply a gap in the rules. Without decision frameworks it is more difficult for staff to make and defend decisions. The codes can vary from high-level to very detailed: the US agencies, for example publish a great deal of advice to bank examiners on how to approach the examination process; they also supplement their primary legislation with large quantities of published rules.

Here the 'case' corresponds to a new transaction or financial instrument requiring a regulatory capital treatment; the judge corresponds to the person who must apply the regulatory framework to the new instrument. Many hard cases arise when rules rely on categories whose definition turns out not to be tight. The banking book and the trading book offer two distinct views of the world. Default risk in the banking book and specific risk in the trading book are related, but distinct concepts. Many instruments do not sit comfortably in either book. Many other hard cases relate to the treatment of innovative capital instruments, and of securitisations with questionable degrees of risk transfer. In bank regulation, as in accounting,⁶⁰ the fuzziness of these cases is no accident. Treatments differ according to category, and banks have incentives to manipulate the category boundaries to get the better treatment (this is regulatory arbitrage again). The new regime will also define new categories. In both the revised standardised approach to credit risk and the IRB approach, retail exposures will receive more favourable treatment, and so we can confidently predict that banks will try to describe loans to large companies as retail lending. It is very difficult, however, to design rules that treat all similar things

similarly. Not every rule, unfortunately, can be a continuous function of an observable argument.

The task of adjudicating in the hard cases may fall to bank supervisors, but more commonly it falls to a specialist in 'policy' to make the call. The hard cases do not form the majority of deals, but they take up a disproportionate amount of banks' and regulators' time. The policy function produces interpretations of how the existing rules apply to new cases; it also contributes technically to the production of new rules on the international stage.

Faced with a hard case, the regulator may toss a coin, or choose in favour of the highest briber or the person of the same race, gender, political party or class, but if he did so he should be criticised for failing in his duty. The obvious question is what standards may be considered relevant.

In the UK, statute provides other instructions to regulator as to how to go about rulemaking and interpretation. Four objectives of regulation are set out in FSMA (§2). The two relevant to prudential supervision are consumer protection and market confidence; and these are usually justified on economic efficiency grounds (although, at least, consumer protection could certainly be justified by an individual rights argument). The FSA must also have regard to what are known as the '*principles of good regulation*' (§3): which include the competitive position of UK financial services, the principle that burdens imposed must be proportionate to the benefits expected to result from them, and the principle that consumers should receive an 'appropriate' degree of protection consistent with caveat emptor. The principle of proportionality is backed up by a statutory requirement to conduct an analysis of the costs and benefits of rule changes, which is a 'policy' standard.

These statutory principles do not describe all that is relevant to a hard case or a proposed rule. Other laws may limit the extent to which FSA may pursue these objectives (eg the Human Rights Act 1998 create individual rights against the state). But general principles need not be written down in law to represent constraints.⁶¹ For these purposes it does not much matter whether the relevant principles are written down in a form that is itself recognised as law or not (indeed, Dworkin argues that the law cannot be reliably defined in such a way as to make this distinction), or that they be written down at all. Regulators are bound by social and institutional convention. If FSMA had not included the principles, regulators would still most probably have had regard to them as they did before FSMA was passed; they are useful, though, because despite their generality they reduce uncertainty for regulator and regulated about how the regulators will decide in the context of hard cases.

Rule types, delegation and fairness

The anti-formalist approach requires generality and flexibility.⁶² The Basel proposals, as result of their reliance on 'risk-sensitive' internal risk measures and on supervision, do not aspire solely to generality, but both approaches rely less on formulaic rules and more on qualitative standards and principles. Yet formulaic rules, standards and principles are not close substitutes. Standards and principles are usually more general than rules. They are more flexible, but they require interpretation. This requires the delegation of authority; it also raise the difficult issue of whether standards and principles can be, and

seen to be, implemented consistently. Different societies have different preferences over the strengths and weaknesses of the different rule types.

The anti-formalist approach is built around the challenges that complexity and change pose to rules. Estrella concludes that, if rules must be continually changed, then the nature of the rules should be changed; they should be kept general. The advantage is that at a high level of generality, rules would need to be changed less frequently. Technology and market behaviour may change, and require changes to be made to the detailed structure of the rules, but the principles of regulation and supervision may remain constant.

Generality and flexibility, however, come with costs. First, generality leads to uncertainty. A law that cannot be interpreted may be no law at all; to have legal effect, high-level principles must be backed up by standards showing how they will be interpreted. Generality is not easy to achieve. The more general the rule, the more interpretation is required before it can constrain behaviour.

Regulators and legislators in certain jurisdictions – Germany and Austria, among others – continually emphasise the need for ‘legal clarity’ (by which I think is meant, in the terminology of Black, 1994, that rules must be both precise and clear). These regulators have been required to implement vague rules and to make interpretations, without in every case explicitly having been given the authority to do so, and they often prefer formulaic rules to principles and standards.⁶³

A common approach to the lack of clarity inherent in generality is to combine different rule types, to ally high-level principles to ancillary documents that set out more operational interpretations of the principles so that citizens may find safe harbours.⁶⁴ This approach is not so easy to achieve in the international context as in domestic law, but some suggested frameworks do take this approach (Giovanoli, 2000, and Lamfalussy et al., 2000).

The EU institutions have granted themselves only a restricted set of rule types (Regulations, Directives and Decisions, which all impose binding obligations, and Recommendations, which do not). In banking regulation, only Directives tend to be used. The European institutions have not used different rule types as imaginatively as they might have done, either by using the possibility of general principles or by agreeing guidelines (Lamfalussy et al., 2000, 15).

The Basel Committee implicitly uses different rule types. Pillar 2, for example, is based on four key high-level principles, and supporting text that appears to have the status of guidance. However, in an important respect, the Accord and the EC Directives are similar. Neither the Basel Accord nor EC Directives have direct effect. They are binding on the authorities, not on those to whom the rules will ultimately apply (Giovanoli, 2000, 39). In order to implement them, national regulators need to map them on to their own suite of rule types, and this mapping can be tricky. Different countries use different rule types, and have different numbers of rule types available to them. If a harmonised approach is desired, the Basel Committee’s apparent advantage is illusory: the Committee must accommodate the least flexible common denominator.

Secondly, generality implies delegation, and the degree of delegation is a political choice. Tarullo (2001) writes: “In a democratic society with heterogeneous preferences and substantial uncertainties, the issue of *who* makes a decision is a matter of considerable importance. Statutory rules may reflect the judgment of a legislature that a regulator or judge is not the best agent to decide how to balance competing considerations” [original italics]. In all countries, rules are imprecise and incomplete, and regulators must exercise discretion in their interpretations. Some countries, however, have a stronger aversion to generality – and hence to flexibility - than others.

The extent to which delegation to expert administrators takes place varies. In the UK and US, the regulatory authorities explicitly have rulemaking powers.⁶⁵ North American and British regulators should be able to implement Basel 2 without recourse to primary legislation. Of course, delegation in these cases is subject to procedural requirements and accountability mechanisms. Several European regulators, including Germany, must wait for their parliament to change the Banking Act, and this can take a long time.⁶⁶

Thirdly, because standards and principles must be interpreted, they may be interpreted inconsistently. This seems unfair. Behaviour is much influenced by ideas of what is fair (eg Kahneman et al., 1986), perhaps because they derive rules of behaviour from moral beliefs, or because social norms enforce even when private incentives suggest otherwise. Supervisors faced with hard cases (or with new rules to make) are no exception. Zajac (1996, 134) points out that debates over policy changes are almost always characterised by fairness arguments. Fairness and equality considerations have influence for legal reasons. Liberal states defend equality as a basic right. For example, they usually enshrine the right to equality before the law as a constitutional requirement.⁶⁷ Whatever the law, administrators are expected to behave ‘fairly’. Most accept the general principle that ‘equals should be treated equally, and unequals unequally, in proportion to relevant similarities and differences’ (Feinberg, 1973⁶⁸). But this is an abstract principle: ‘equally’ and ‘relevant similarities and differences’ require interpretation. To be of use in particular cases, the abstract principles need to be turned into concrete principles and rules of thumb that recognise and resolve potential conflicts with other principles. (The ‘fairness’ calculations that people use in practice need not in fact have any normative value, as Kahneman et al. (1986) are at pains to emphasise.)

Not all cases have an obvious fairness dimension.⁶⁹ But in general, the hard cases, those that will set precedent, do. A wholesale change in the rules certainly creates winners and losers and raises questions in the mind of the rulemaker about whether the gains and losses are *deserved*. When an ethical dimension is perceived, decisions become based on deep beliefs about justice, about right and wrong (Wade-Benzoni et al., 2002), judgements of which are emotional and instinctive.

The right to equal treatment by the state is valued very highly, and no doubt the reluctance to delegate is linked to the fear of administrative inequities. Banking law and supervision are very tightly bound by equality requirements in Germany and Austria. Not only must fairness be achieved, it must be demonstrably achieved, and this constrains the kind of fairness that can be achieved. If officials cannot reliably demonstrate that two cases are different, then they must be treated the same (even if they are different). For example, the constitutional requirement to treat all people equally is interpreted in Austria to rule out an individualistic approach to capital requirements (it can even be

argued that different supervisory visit frequencies are unconstitutional). This interpretation has been enshrined in the Banking Act, which requires that the minimum capital requirement for all banks is 8%.⁷⁰

A kind of fairness principle that carries very great weight in practice in all countries is that of *consistency* across banks and over time. Consistency is a useful concept because it is a concrete guide, in a way that 'equality' is not. Discussions concerning hard cases take it for granted that consistency will be desirable. Supervisory authorities introduce mechanisms explicitly designed to increase consistency, eg the assent of hierarchical superiors, quality assurance panels, and peer review.

A problem of standards and principles is that the effective constraints cannot be summed up except by simply repeating the standards or by reviewing particular cases. It is harder for an agency to achieve consistency across banks and over time; it is also hard or impossible to demonstrate that consistency has been achieved. This principle is so weighty that it is usually considered better to treat all firms wrongly than to treat only some of them wrongly, which is effectively an argument in favour of rules and against discretion.

Even in countries where it is more commonly assumed that agencies may behave benignly, as in the UK, the need for visible fairness restricts the actions of supervisors. The Banking Act 1987 regime gave great flexibility to regulators (it is too early to judge the FSMA regime in action); banks appreciated this flexibility when it was applied to their own case, but disliked the fact that flexibility was applied to others. It was not clear whether, in the minds of many bankers, the benefits outweighed the costs.

One type of consistency, precedent,⁷¹ plays a great role. In perhaps the majority of cases to come before the policy expert, the case will be decided by analogy with precedents (in the terminology of Kahneman et al., 1986, precedent provides a 'reference transaction'). Judgements made in the past are so important that when regulators do decide to change the rules, they often 'grandfather' the rights that they are restricting (Zajac, 1996, 121). This, of course, contributes to the cost of changing the rules.

All this leads to the conclusion that formulaic rules, standards and principles are not close substitutes. In the Pillar 1 context, banks have incentives to produce inaccurate models understating their risk, so that regulators adopting a risk-sensitive approach must impose qualitative standards to ensure that the risk measures are not simply misrepresentations.⁷² The IRB framework relies much more on standards to be defined in their usage by regulators.⁷³ This regime shift, as well as making it harder to enforce the rules, will make it harder to verify whether the rules have been enforced. If a regulator is challenged on its judgement of a qualitative standard, a court is likely to find it difficult to judge the outcome differently from the regulator. The court will consider the procedures and principles followed in reaching a decision. That leaves the agency free within reason to define 'adequate'; that is what weak discretion means.⁷⁴ The increase in discretion makes it more important that the incentives on supervisors are benign. In many if not most countries, political imperatives will strongly influence which banks are to be granted recognition, and the standards will be interpreted to deliver that outcome: Germany and Japan are probable candidates. In most countries the regulatory constraints on large banks will become weaker. It also inevitably makes it harder to achieve a consistent approach to

domestic banks. The nature of any accountability must change, too. Some countries are less comfortable with this kind of delegation with procedural accountability than others, so the increased reliance on qualitative standards in the Pillar 1 regime will suit some more than others.

Supervision is intrinsically individualistic. A supervisor must treat different banks differently on the basis of a subjective judgement that cannot be second-guessed in court. To rely on supervision requires the legislature to trust an agency with a great deal of discretion. In many countries, such trust is absent (and this mistrust may often be justified). Mishkin (2000) says that bank regulation provides supervisors “with a stick they can wield to get banks to implement proper risk management measures.” This is correct; but it is the discretionary part of the regulatory regime that provides the stick. If the regulator cannot apply such corporal punishment, there is little point going to the trouble of the first three steps of supervision. Supervision works well in a British or North American administrative system, but supervision in jurisdictions that cannot accommodate administrative flexibility is hard, or even impossible. The optimal approach to supervision in such jurisdictions may be to do little or none of it. In this case, if the level of protection desired is the same as that in countries that can use discretion, other elements of the safety net need to be enhanced.

9. The international context

I now turn to the international context. Specifically, I consider what the supervisory approach means for regulators wishing to harmonise minimum standards.

Different ideas about fairness

Public agencies in different countries have different ideas about what is fair in bank regulation. To some degree this may reflect framing effects (Kahneman et al., 1986), but it may also reflect differences in preferences.

The most commonly-cited fairness principle in financial regulation is the ‘level playing field’, which encapsulates some notion of competitive equality. The level playing field is treated by regulators and the regulated as a universally-held ideal, but it is not defined. If a change of policy transfers competitive benefits from small banks to large banks, then small banks will complain of the threat to the level playing field and large banks will regard it as an improvement to competitive equality (and vice versa). Both may be sincere.

The definition of the level playing field depends on the meaning of equal circumstances, and on whether the judgement of equality may be delegated to technocrats. If differences between banks are reliably observable, it is both inefficient and unfair to treat different banks the same: treating all banks ‘equally’ is unfair to those that are well-managed and low risk, and is not incentive-compatible since there is no incentive to improve systems and controls. But this kind of individualistic fairness is difficult to demonstrate to third parties, or to the banks themselves who strongly demand it. An individualistic approach risks administrative partiality and caprice.

If I argue that banks should be treated equally, then it is easy to support a minimum capital adequacy ratio that is the same for all banks. If I argue that the externalities should be taxed equally, then a flat rate will not do unless all banks are identical or unless

differences cannot be reliably identified. This simple framing effect characterises a fundamental and unresolved difference of view between the UK and many other European supervisors about the correct approach to bank regulation. When such a difference persists, it is inevitable that the supervisory regime will differ in important respects (in particular, in the fourth step).

Secondly, but related, an important addition to European financial law was explicitly driven by a fairness argument. The Capital Adequacy Directive provided the same passport rights to investment firms as had already been granted to credit institutions. As a quid pro quo, the Directive imposed the same minimum capital requirements as had been applied to credit institutions.⁷⁵ Since banks and non-banks competed, this was apparently the only approach compatible with the 'level playing field'.⁷⁶ This doctrine has also been called 'same risk, same capital requirement'.

This is not the only possible view of what is fair. Financial risk to the firm was implicitly equated with the risk to society. If investment firms pose less risk to the system (they are smaller on average) and to the consumer (client assets must be segregated; bank deposits are not), then is it fair to impose the same burden on them? This question does not arise in countries where both businesses are contained within universal banks, but it does elsewhere.⁷⁷ It is easy to dress up the same arguments as efficiency arguments, but those couched in fairness terms win.

A third example is the menu approach. Offering a well-designed menu of regulatory contracts and allowing banks to choose their regulatory approach can give banks incentives to improve risk management. The current Basel regime offers such a menu in its market risk rules; the new one will offer a menu for operational risk and credit risk too. This approach can be seen as fair, since well-managed banks can select the approach with the highest standards (and the lowest capital), and all banks have the capacity to be well-managed if they choose to; it is 'contribution-fair' in that banks get to keep the fruits of their 'talent'.

But it can also be seen as unfair. While all banks can aspire to manage their own risks well, there are fixed costs to investing in the risk management machinery required by the international agreements. It is therefore easier for large banks to meet the standards, and the experience of VaR model recognition is consistent with this argument. The belief that the menu approach unfairly favoured large banks appeared to lie behind the requests by certain Members of the European Parliament⁷⁸ and trade associations for the standards to be designed so that *all* banks could meet them. The conclusion had little merit - one might question the benefit of standards that even the worst bank could meet - and the amendments were thrown out. However, the fairness argument cannot be so lightly dismissed.

These international differences matter for two reasons. First, they lead regulators to come up with quite different interpretations in the hard cases. Secondly, the differences are deep and difficult to resolve. When fairness aspects intrude into negotiations, the arguments become ideological. Negotiators become more emotional, less flexible and less able to see the other's point of view. Mutually beneficial agreements may not be reached (Wade-Benzoni et al., 2002). Different countries have different ideas about what

is right; it is not clear that supervisors can or will *ever* agree on a common supervisory framework.

Voluntary implementation

The Basel Committee is an invitation-only club of central banks and bank supervisors.⁷⁹ Its agreements are not legal instruments and are not legally binding. They constitute ‘soft law’, which Alexander (2000) defines as: “an international rule created by a group of specially affected states which had a common intent to voluntarily observe the content of such a rule with a view of potentially adopting it into the national law or administrative code”. The Financial Stability Forum has adopted a similar approach.

The Basel Committee does not have a formal voting procedure and works by consensus. The lack of an enforcement mechanism requires that unanimity be the customary rule of change. All members effectively have a veto on matters of national interest.

To be effective, the Accord must be self-enforcing. Common intent to implement is therefore key. Although they cannot commit their own governments, members draw up the code with the intention of honouring it. Member countries – and other countries – are expected by the international community to adopt the international norm. There is a general agreement that the agreement ought to be observed. Welching has reputational costs.

In fact, softness or hardness is not a dichotomy but a continuum, and the status of the Accord has changed since 1988. Since it has become recognised as the global benchmark, and since it has been written (more or less) into EU law, the moral obligation on countries to be seen to abide by the agreement has increased, the likelihood of effective punishment for non-compliance has increased. Member countries increasingly view the Accord as something verging on customary international law, and the interest of legislators within member countries has increased accordingly.⁸⁰

Evans (2000) says “the traditional approach to compliance was to assume that all members of a particular club would comply with the club’s own rules; that supervisors would bring to colleagues’ attention their own experiences in interpreting the rules; and that the tour de table and informal contacts would provide a kind of peer review. This traditional approach broke down either when some members did not apply the rules... or when there were marked inconsistencies in the way countries applied the rules.”

This is a somewhat downbeat assessment of the status quo from a former Committee member. Sometimes it can be as easy to change the contract as to behave opportunistically *ex post*. Where countries have had overriding needs to ignore the 1988 regime, the opt-outs have usually been written into agreed amendments.⁸¹ Since Committee members have dug into the pork barrel, there has been little need to cheat. (However, whether they count as cheating or not, national treatments permit divergent implementation.)

Unfortunately, as I argued above, there is neither common intent nor common ability to apply the new regime in consistent ways. National authorities have different objectives, powers and beliefs about the role of regulatory capital and supervision. A distinction may be drawn between the US view and the European.⁸² American regulators speak of ‘expectations’, emphasise supervision as an aid for understanding, as a dialogue between

regulators and supervisors. “The first two pillars of the proposed accord distinguish two concepts of capital adequacy: the *regulatory* minimum in the first and *economic* capital needs of the institution in the second” (Meyer, 2001a). They have also lost a great deal of faith in capital adequacy regulation; supervision and market discipline are the most important pillars, according to speeches by US officials. Europeans tend to regard supervision more as a judgement than an understanding, and capital adequacy regulation is still the heart of the regime. Different language may mask a common understanding, but it seems more plausible, given the analysis of national differences set out above, that it reveals disagreement. I conjecture, too, that differences in assumptions about the relationship between private and social optimum (that is about whether risk-sensitivity is incentive-compatible) could be a contributing factor. These differences are likely to cause divergent outcomes even in the absence of strategic considerations.

Take supervisory review. Of the four Basel principles for supervisory review, all agree on the first, which requires banks to have some idea of why they are in business. The fourth principle, which recommends early intervention by supervisors, is also unanimously supported as a principle.

Regulators also agree on the first sentence of the second principle, which suggests that supervisors should supervise. However, the second sentence, which suggests that regulators should intervene if they are not satisfied with risk management and capital adequacy, receives differing emphasis at best. To exaggerate somewhat, supervisors in Europe expect not to be satisfied; US supervisors expect to be satisfied.

The third principle, which exhorts supervisors to expect banks to operate above the regulatory minimum, is not shared at all. The principle is difficult to understand, since it contains a logical impossibility: how could supervisors possibly set a minimum standard and *not* expect it to be exceeded? What would ‘minimum’ or ‘standard’ mean? The awkward language betrays disagreement among supervisors as to what, if any, regulatory action might be required to turn the ‘expectation’ into reality.

The principles of Pillar 2, being principles, leave plenty of scope for divergent supervisory practices. To take the fourth principle as an example, the definition of ‘early’ and the nature of ‘intervention’ will differ markedly. For example, some regimes will adopt committed approaches, others may sign up to the principle but find it legally difficult to act in any specific case, while others have the powers and will take it case by case. The incentive effects on banks will differ accordingly.

It is also no secret that there are differences of view over the desired aggregate amount of capital. These disagreements could be due to genuine differences over the amount of protection desired. They may also be generated by differences in industry structure, the extent of disintermediation, relative producer/consumer weights, average loan quality, positions in the credit cycle, and so on.

Self-enforcement

The 1988 Accord is not intended to be a fully-harmonised regime, for two reasons. First, when combined with the Basel Concordat, the Basel regime has three components: mutual recognition, harmonised minimum standards and home country regulation. Countries are free to adopt more stringent standards (BCBS, 1988, para 7). From 1985,

the EU adopted the same approach. The UK FSA sets capital requirements in excess of the Basel minimum, because it believes the prudential benefits outweigh any potential competitive costs. Belgian banks, similarly, receive a set capital requirement for interest rate risk, on top of the Basel requirements. UK and Swiss banks must hold capital against the investment risk of government bonds held in the banking book. But superequivalence does not count as cheating. Secondly, it also contains built-in national idiosyncrasies, as mentioned above. Thirdly, as I mentioned earlier, it not as objective as it seems at first sight. Sources of subjectivity include loan provisioning, value at risk models for market risk, securitisations and the trading book boundary, are essentially arbitrary.

Basel Committee members are not legally bound by their agreements, and there is no third party granted the power to sanction the non-compliant (although the role could fall to financial markets, as I discuss below). Committee members' behaviour is affected by the behaviour of other members; it is a strategic interaction. There are elements of common interest, and temptations to cheat.⁸³ The Committee has no known finite horizon. There is much scope for bargaining, and since agreement is multidimensional, it is possible to trade favours. It is therefore an interesting game, and there is scope for many complex types of cooperative outcome. The fact that there are gains from cooperation but one-off incentives to cheat brings to mind the tragedy of the commons, which is a multi-person prisoner's dilemma (Kapstein, 1989, makes the same argument). This is by no means a complete description, but, having argued that there is no meeting of minds in Basel, it makes sense to emphasise the gains from trade rather than distributional outcomes.⁸⁴

In regulation, 'cheating' could imply a race to the bottom (excessively low standards leading to excessive risk in the system) or a race to the top.⁸⁵ I assume that regulators would compete to deregulate. There are three related reasons to support this assumption. First, most regulators are explicitly instructed to have regard to their national competitiveness. All do so in practice. Domestic politics weight the competitive positions of their national producer interests very highly, above stability most of the time (except during crises, when the taxpayer acquires voice). Regulators come under pressure from domestic banks and politicians if their capital requirements are higher than others'. Secondly, regulators maximise their power (and in the case of the OCC and UK FSA, their fee income) by increasing the amount of business subject to their regulation, so they compete for business. Regulators think and behave as if there are net advantages to unilaterally lowering standards (despite the possibility that business does not always migrate away from well-regulated jurisdictions). Thirdly, before the 1988 Accord, regulators felt that they were engaging in competitive deregulation, and the Accord was an attempt to halt the trend. For the same reasons, most regulators are very close to or at the minimum standards.

Some co-operative outcomes that are not individually rational in a one-shot game can be enforced in repeated games,⁸⁶ because others have the ability to punish non-cooperation. The fewer the players, the easier it is to enforce a given cooperative solution. The Basel Committee has far fewer members than its securities and insurance analogues (IOSCO and IAIS, respectively), and of the three it has produced much the most influential texts. Repetition allows self-enforcement without recourse to an outside agency (eg courts). Threats may be tacit. What matters is players' expectations about others' reactions. The

influence of the threats depends on the visibility of the behaviour and the intensity and credibility of the punishment. At its strongest, though, cooperation cannot enforce an outcome that requires higher standards than the lowest preferred by any country (if there is a veto, agreements must be Pareto-improving), and others will have to trade off their preferred standards with competitive costs.⁸⁷ It is not clear to any of the players exactly what the threat is, but there are two possibilities: a return to the status quo, or a complete breakdown of cooperation.

For cooperation to be enforceable by peer pressure, however, behaviour must be at least partly observable by peers. When cheats are only sometimes caught, the expected gains from cheating are larger and the set of sustainable solutions is smaller. Qualitative standards are not easily observable. The information is 'soft'; it is hard to quantify and communicate. It is not enough to read the rulebook. In order to judge the intensity of implementation, it is necessary to look at the standards applied. In fact, it may be that qualitative standards are essentially *unobservable*. The new regime will rely more on qualitative standards, and will create new categories, and so require more interpretation by supervisors.

One source of information on others' standards is multinational banking groups. If affiliates apply in several jurisdictions for the same regulatory treatment, it is possible to infer something about others' standards on the assumptions that standards are common among the affiliates.⁸⁸ However, the assumption is strong, and so any inferences cannot be relied upon.

However, if cooperation is to be enforced, players need to make the effort to observe others' actions, and respond to the observations. The ability to observe and make threats allows greater cooperation, and this is one rationale for civil law. The Basel Committee does not take advantage of these opportunities. Members are wary of the judgement of others. When the rules change, member agencies convene to discuss how they have resolved unforeseen interpretation challenges, but there is no significant pressure on those who choose to make idiosyncratic interpretations.

BCBS (2001c) states (paragraph 33) that "The Committee intends to develop a framework to exchange information amongst member countries – at least annually – on the status of implementation of the different pillars and on the exercise of discretion by countries under various elements of Pillar 1 requirements. This approach will allow supervisors to benefit from each other's experiences and will promote a balanced implementation between countries." Eleven months later, the Committee finally announced (BCBS, 2001d) that it would set up an Accord Implementation Group, to be chaired by Nick Le Pan of OSFI, "as a means for supervisors to share information and approaches related to the implementation of the new Accord". In the absence of common understanding, consistency depends on this non-enforcement committee. It does not have the mandate to enforce consistency.

Disclosure as an enforcement mechanism

Many of the Pillar 3 disclosure requirements are not designed to facilitate an informed assessment of a bank's financial risks but to reveal differences in supervisors' Pillar 1 implementation standards. The idea is that market participants will use this information to assess when regulators are applying a light touch, and that in such cases they will

increase the risk premium. Banks will then have incentives to force their supervisors to adopt high standards.

Market participants do try to punish laxity when they observe it and consider it relevant. (They do not consider it relevant if they expect the borrower to be bailed out, and such expectations may drive much lending to large banks and to large countries.) Most countries around the world try to implement a Basel look-alike regime, partly because of pressure from other countries but largely because the markets reward it. It is possible, to a large extent, to judge the standards with which the 1988 Accord has been implemented.

Yet the hope that these Pillar 3 disclosures will actually enhance market discipline in the new regime is optimistic, and at odds with the cautious assessment given in the Sheng Report (FSF, 2000, eg para. 34 and Annex F).⁸⁹ Market participants tend to be unaware of international standards, and to consider those that they are aware of to be of doubtful importance.

Even if that were not the case, judging standards of enforcement of a very complex set of largely subjective standards, as the IRB approach promises to be, is an immensely challenging task. Information acquisition and processing are costly. Analysts minimise cognitive costs by using rules of thumb and other time savers. In the end, market participants simply do not have the incentives to expend the effort to conduct such a complex assessment.⁹⁰ Even if they did, the disclosure requirements are highly imperfect signals of quality of standards, so they do not have sufficient information to form a reliable judgement. It is not easy to map such qualitative judgements on to quantitative risk assessments (ie, yields).⁹¹ If market discipline is to work, the markets need someone to do the analysis on their behalf – as the FSF notes – and they need to be aware of and take notice of these assessments.

The Basel Committee has neither resources – it has a secretariat of 10 or 15, depending on the source of information – nor authority, nor will. In its first consultative paper, the Committee proposed as a necessary condition for bank risk weights to drop below 100%, that the sovereign of incorporation should have implemented (or have endorsed and be in the process of implementing) the Basel Core Principles (BCBS, 1997). The Committee dropped the idea in time for the second round, in recognition that adherence would be too costly to monitor and that self-assessment is not incentive-compatible.

The international organisations best placed to judge compliance with standards, at least in the developing world, are the IMF and World Bank. But the IFIs would not need banks' Pillar 3 disclosures to make the assessment, the assessments that they do make (FSAPs and ROSCs – see below) are published only with permission of the assessed countries, and they do not go into sufficient detail to judge the effective standards.

The only alternative left to justify the extra IRB disclosure requirements is that the private sector should appoint monitoring agencies, which means rating agencies, to incorporate them in their assessments. Assessing regime strength is a task that does not fall well within the traditional core competences of rating agencies, which like the IMF have focused more on national macroeconomic and macrofinancial data, and in changing their assessments would be competing for the same small pool of skilled people. They will not possess the 'soft' information needed to assess a qualitative regime properly.

It is unrealistic to expect that Pillar 3's implicit disclosure of supervisory regimes will act as a material constraint on supervisory standards. Those disclosure requirements that are included solely as a check on supervisory laxness should therefore be dropped.

Is divergence a problem?

Domestic regulation aims, at least, to protect consumers and the financial system, subject to certain constraints. The rationale for international financial regulation is different. The aim is to protect the international financial system and to limit competitive inequalities. Competitive equality has always been at the centre of negotiations in Basel. Like others who invoke it, I presented the principle of the international level playing field as self-evident.

Heterogeneity certainly imposes costs. Providers of cross-border banking services have to comply with more than one set of rules. Systemically-important banks are multinational and can take advantage of regulatory differences and arbitrage between them at low switching cost. Harmonisation aids international comparability and hence market discipline. As Kane (1997) points out, regulatory competition guards against overregulation, but tends to produce excessive leniency in the absence of measures to protect against such failure. True harmonisation also increases the number of cases with known interpretations and reduces regulatory uncertainty for banks.

There are arguments in the other direction, however. Diversity promotes innovation and efficiency in regulation. Cross-border diversity can allow banks to evade arbitrary or excessively burdensome regulation.

I set out in the previous section many aspects that are relevant to the effectiveness of regulation and supervision, and argued that they differ between countries. As well as legal powers and norms, corporate governance, supervisory capacities, banking structures, also differ. A common regulatory approach would not give the same level of protection to consumers, nor is the desired level of protection for consumers likely to be the same. Other objectives may be different. And the desired tools for achieving a common goal may differ. Many of these are more fundamental than regulatory standards, and so it would be illogical to argue that preferences should change so that standards may be the same, for example. In fact, as Aaron and Bryant argue in the preface to Herring and Litan (1995), "nations specialize in producing goods and services in which they are relatively most efficient. In a fundamental sense, cross-border trade is valuable because the playing field is *not* level [original italics]...Taken to its logical extreme, the notion of leveling the playing field implies that nations should become homogeneous in all major respects. But that recommendation is unrealistic and even pernicious."

These arguments imply that the objective of an international 'level playing field' is flawed.⁹² The term is used as a loaded synonym for harmonisation. The 'playing field' should not be levelled, but sold for redevelopment like the playing fields of Britain. A lower capital treatment may arise out of competitive behaviour, or it may have a legitimate explanation. Herring and Litan (1995) argue "the supervisory authorities should focus on systemic soundness, not on the attainment of a level playing field." Irrespective of their validity, however, arguments over the level playing field will persist, since the principle simply appears fair to many, and fairness judgements are more visceral than cerebral.

The regime is merely supposed to describe common minimum standards for mutual recognition, and such a structure should permit significant variation above the minimum. In practice, national differences appear rather small:⁹³ countries' definitions of capital and of risk-weighted assets are pretty similar, so that in practice the regime is more harmonised than common minimum standards require.

Is this the right amount of co-ordination? The benefits of divergence imply to me that absolute harmonisation is not the answer, but some coordination is better than none. I believe that the optimal degree of harmonisation of capital requirements is different from that for supervisory practices. If foreign bank branches are permitted to operate in a host state, as in the Basel Concordat regime, capital requirements are subject to nearly costless international arbitrage by large banks, so that divergences can be magnified. Small differences could lead to large differences in banking portfolios and risk types across countries, and concentrations of risk in countries, so that the rules as applied to the portfolios of banks in each country become inadequate. There are limits: Australia has implemented its own idiosyncratic risk weights without attracting the world's mortgages. Perhaps Herring and Litan somewhat overstate the case for diversity. International arbitrage is most likely to happen with new risks and products that banks suddenly become desperate to take on; they are likely to search for the lightest regime and stay there. But the amount of arbitrage is difficult to predict. In a sense, capital is special: it requires a greater degree of harmonisation than that implied by a soft law approach. The capital Accord is one among many sets of unenforced standards promulgated by the Basel Committee, but it is first among equals.

In the new regime, the majority of the capital requirements of the highest-impact banks will be effectively determined by self-assessment. These capital requirements will be sensitive to the qualitative standards, and these will be essentially unobservable. If the Basel Committee is satisfied with the current level of harmonisation in Pillar 1, then the level of harmonisation in the new regime will be too low.⁹⁴ The spillovers are far greater as a proportion of G-10 GDP than they were in 1988, and 'diversity' has, if anything, a negative valence in Committee discussions.

The deep differences between countries carry more weight when it comes to supervisory practices, where the legal differences count for more and where arbitrage is not so easy. Divergent supervisory approaches are inevitable, and perhaps it does not matter. Supervisory principles are therefore like the other international soft law standards: countries share common principles, but the implementation of the standards must be embedded in each country's national structure.

Conclusion

If the supervisory approach has problems in a domestic context, they are worse in the international domain. Industry structures, corporate governance, lobbying power of banks, numbers and skills of supervisors, career aspirations of supervisors, and attitudes to the exercise of supervisory discretion, and to banking supervision in general, vary within the G-10 and EEA. A common supervisory model would have uncommon impact. Furthermore, there is little agreement on whether supervision should be done, how it should be done or the reliance to be placed on it. Although there is some appetite for convergence of approach in the EU, I detect little in the G-10.

A supervisory model that is common in the detail is also infeasible. If standards need to be consistent, there must be either enforcement or common intent. If they were written down, they would be very difficult to verify and enforce. Regulators faced with the inevitable trade off of competitiveness and prudence are quick to err on the side of competitiveness. More subjectivity allows them to do this more, and there is no effective disciplining device. Pillar 3 disclosures are partly designed to limit this risk of inconsistent interpretation. They will not.

10. Outside the G-10 and EEA

Most countries have no obligation to introduce a Basel-style regime, and yet more than 100 claim to have done so. They have made this claim because the financial markets, other countries and the official community reward them for doing so. This export success puts the Basel Committee in a difficult position. It has no right to set requirements for those outside its membership, and has never sought to do so. During the Basel 2 project, the Committee has rather unwillingly recognised that its framework is the global standard. It is trying to design the new regime in the expectation that it will be widely adopted; but, contrary to the claims of some, it is aware of the legitimacy problem and does not want to go beyond its objectives and powers. Through its Core Principles Liaison Group, the Committee has tried to facilitate the introduction of standards of use to non-G10 authorities, and it has also helped to establish the Financial Stability Institute with the aim of improving the skills of supervisors around the world.

The Basel Committee designed the Core Principles for Effective Banking Supervision (1997), and the self-assessment methodology attached to them (BCBS, 1999c), in partnership with non-G10 countries, (see BCBS, 1997 for a list of contributing countries). These – particularly the first ‘precondition’ - may perhaps be interpreted as *minimum* but not necessarily sufficient conditions for effective supervision.⁹⁵ The Core Principles are not a set of rules whose implementation is easily observable. The Basel Committee has also published a methodology intended to help those regulators wishing to improve to identify the gaps, and this self-assessment is supplemented by assessment by the IMF and World Bank. The IFIs also expect to provide technical assistance, along with the Financial Stability Institute.

The Basel Core Principles are a component of one of the twelve key sets of standards whose adoption is encouraged by the Financial Stability Forum (FSF, 2001). To my eye, the three others of most importance to effective prudential regulation are the two relating to auditing and accounting (issued by the IFAC and IASB respectively), and the principles and guidelines on effective insolvency and creditor rights systems (issued by the World Bank).⁹⁶ All three will be the subject of Reports on the Observance of Standards and Codes (ROSCs) by the World Bank. ROSCs are not mandatory. The general approach to these standards, born of the shortage of people with the requisite skills to conduct the assessments, is one of self-assessment plus external evaluation, and the Core Principles fit into that framework.

Many developing countries fail to satisfy the necessary conditions for effective regulation and supervision in many ways:

- Many governments implement policies that effectively steal from some sections of the population or from future generations, and this according to Easterly (2000)

goes a long way to explaining why per capita real income in the poorest countries has barely grown in the last two decades. Barth et al. (2001) present findings on various supervisory practices that they say are more consistent with the 'grabbing hand' view of government, in which governments regulate to support political constituencies.

- Many supervisory agencies lack resources, political independence, the legal power to exercise discretion, clear decision frameworks, reliable information, strong management and skilled staff.
- Most banks are badly managed, failing even to possess that most basic condition for competence, a credit culture (Delhaise, 1998). Franchise values are often restricted by financial repression. The return on skill is lower, and so are skill levels. Banks have less 'informational' capital. Disclosure requirements are weaker and less well enforced than in the G-10, and bank accounts in many countries are pure fictions, so that the true value of capital is low or even negative. Capital markets are thinner and more subject to manipulation. Corporate governance requirements are weak, and bank managers are very often closely linked to major borrowers and to the government.

Developing countries lack institutional capital. All concerned, therefore, have weaker incentives to act in the public interest, and all three Basel 'pillars' are weaker. In such circumstances, the industrial world model is not necessarily the best. Barth et al. (2001) write "there is no evidence... that the best practices currently being advocated by international agencies are best, or even better than alternative standards, in every country. There is no evidence that successful practices in the United States, for example, will succeed in countries with different institutional environments." (This argument also applies to other countries within the G-10.) Supervision is based on a 'helping hand' model of government, whereas the evidence is more consistent with 'grabbing' hand or 'ineffective' hand models (Barth et al., 2001). Supervisors given discretion will make mistakes, will be bribed or will be bullied by the powerful into abuses of discretion. Rigid quantitative rules have costs, but they can be enforced without supervisory discretion. Not only do they bind the hands of supervisors, but they bind politicians too. The supervisory regime, in fact, almost certainly contains too much discretion already. Brownbridge and Kirkpatrick (2000) argue that supervision involved a great deal of discretion in East Asia, and that this led to forbearance in the period before the crisis of 1997.

With all the necessary conditions in place, an enhanced supervisory approach can help improve the credit culture in banks. But banks' models, for example, are much more likely to fail: there is nothing to stop banks inputting garbage in order to receive the desired garbage out. Implementing the IRB approach on top of a weak infrastructure would reduce the amount of capital held against the risks, increase the fragility of the banking system, and exacerbate the misallocation of credit. It would be illusory regulation, beneficial to bank shareholders but costly to the public. Barth et al. (2001) find weak and variable relationships between indicators of supervisory power and bank development, efficiency or the level of nonperforming loans. They also find that greater supervisory powers are associated with greater corruption and less bank development, but that this is not the case in countries with politically very open regimes.

Much of the criticism concerning the impact of the new Accord on developing countries has been based on changes in their governments' and banks' cost of borrowing: broadly, that low-rated countries and banks will face a (much) higher cost of borrowing and reduced supply, and that highly-rated countries will benefit. That is indeed the point of the changes, which are designed to improve banks' incentives to distinguish between different levels of risk, and also to reduce distortionary incentives on borrowers. In fact two other effects will be much worse. The first is that short-term bank lending, already the most unstable component of capital flows, will become more volatile as the new risk-weights have procyclical effects. This has been widely noted. The second, less often noted, is the scope for discretionary abuse.

Because there are large and increasing international spillovers, it would be counterproductive for states and international bodies to put pressure on developing countries to implement a discretionary regime that would lower standards. However, pressure to implement a Basel-style regime already exists. The World Bank (2001) comments that "the international community is likely to expect all banks to adopt and implement the Basel Committee's recommendations."

Market access requirements also encourage the adoption of Basel 2, although the relevant laws and agreements support different interpretations. The Basel Concordat suggests that host countries should take into account the adequacy of home country supervision in deciding whether to allow foreign banks to branch in, and should if possible forbid the authorisation of foreign bank branches where home country supervision is judged to be inadequate. Subsequent agreements – the Core Principles and the Basel Accord - could be interpreted as defining adequate. Developing countries may be judged adequate if they operate a regime at least as strict as the Basel regime, but the safest way for them to guarantee access is to implement the international benchmark. Similarly, the Second Banking Co-ordination Directive requires that standards applied to third country banks (ie branches) be no more favourable than those applied to banks from other EU member states, and this has been taken to include capital adequacy standards, and the Capital Adequacy Directive builds in the criterion of CAD-equivalence for third country regimes.⁹⁷ In view of this legal uncertainty, the safest way for a developing country to demonstrate equivalent standards to the rich countries is to adopt the same regime.

The IMF and World Bank will also be a source of pressure to implement the discretionary parts of Basel 2, if they choose to be. As part of their new Financial Sector Assessment Programs (which assess financial sector vulnerabilities and identify development priorities) the two IFIs assess regulatory infrastructures against international benchmarks, the relevant benchmark in the field of banking regulation being the Basel Core Principles. The assessment task is daunting, and the two IFIs have their own sets of incentives that could distort assessments (officials' career incentives, for example), but they are better placed than others.

FSAPs are not to be published without the consent of the country involved, although the Sheng Report encourages a bias in favour of publication (FSF, 2000, 5).⁹⁸ Moreover, as with ROSCs, countries volunteer to undergo an FSAP; the possibility of punishment for a finding of lax standards could mean that only good international citizens such as Canada would volunteer.

The FSAPs were designed to assess compliance not with Basel 2, but with the Core Principles. However, the two are linked. The sixth of the Basel Committee's 25 Core Principles states that banking supervisors should apply capital adequacy standards to internationally-active banks at least as strict as those of the Basel Committee. The FSAPs need not be a source of pressure to introduce Basel 2 unless the IFIs choose to make it so. The question is whether they will. The IFIs have said that they expect to 'promote dissemination' of the Basel framework, and this is consistent with the Basel Committee's belief that the 'underlying principles' should be exportable. However, the World Bank appears to be more enthusiastic about discretion than that. The World Bank (2001) has commented that in the developing world the benefits of implementation of Pillar 2 are likely to outweigh those of the improvements to Pillar 1, that "the success of the proposals in non-G10 countries will certainly be measured against whether banks and bank supervisors will be capable of adopting the four elements embodied in Pillar [2]". The Bank suggests that a move to a risk-based approach "may prove very challenging for many supervisors because supervision will become judgmental as opposed to being rule based. The challenges that lie ahead should be viewed as an opportunity and not as a reason for discarding the new framework." The logic of this argument seems to be that countries cannot successfully employ supervisory discretion and so should do just that. The IMF staff comments (2001) are more cautious: they support the emphasis on supervisory review, express concerns about additional demands on bank supervisors, call for additional guidance on how to assess IRB systems, and emphasise the importance of supervisory accountability if they are given discretion, and the need for higher ratios than 8% when risks justify. In an IMF Working Paper, Karacadag and Taylor (2000) identify the conditions for process-oriented supervision and market discipline to work in the context of developing countries, and express doubts as to whether the conditions are widely satisfied.

'Enhanced supervision' is costly to acquire, and it does not obviously benefit politicians closely linked to banks. Developing countries face a choice about how to expend limited resources on reducing their financial fragility while trying to benefit from increased participation in global capital markets. Where regulators' attempts to control systemic risk are not supported by politicians, the return on investment in supervisory capacity will be negative.

Countries in which producer interests count for more than consumer interests will have their own incentives to move to the IRB approach, which will be calibrated to produce lower capital on average than the standardised approach. In fact, internal ratings systems in countries with relatively poor credit loss experiences should give default probability estimates that require greater capital, but there is little chance that standards required to produce this outcome will be enforced.

The danger is that countries will come under pressure from other countries and from the markets to implement the whole of Basel 2 in one go, badly, rather than adopting a more cautious sequencing approach. The World Bank (2001), for example, "is concerned that non-G10 countries might lack the proper incentives to adopt and implement [Basel 2], which would be an unwelcome outcome."

Since qualitative assessments of regimes are hard, it may be cheaper for countries to claim that they have upgraded without actually doing so. Ideally, the markets would

discipline in such cases. As I have argued above, such discipline is unlikely to work in practice and the effect could plausibly be perverse. Thus the existence of the codes, without an enforcement mechanism, may induce a false sense of security (Giovanoli, 2000).

11. The new regime reconsidered

The Pillar 1 minimum capital requirement will remain an incomplete measure of risk in the new regime. At least four significant contributors to social risk will be missing from Pillar 1: differences in the impact of failure between banks; cyclicity; interest rate risk in the banking book; and residual risk arising from the use of credit risk mitigation ('w'). In this section I shall discuss the first two risks, and then return to the role of models in regulation.

Impact

Efficient policy forces firms to internalise the externalities that they impose (up to the point where the marginal cost of resulting distortions equals the marginal benefit of reduced externalities), and one means of doing so when information problems are small is by a Pigovian tax. High-damage banks impose greater externalities and should be 'taxed' more.⁹⁹ Because of the higher expected loss in the event of default, the socially-optimal failure rate (probability of default) of a high-impact bank is less than that of a low-impact bank.¹⁰⁰ There are two immediate practical problems with the textbook solution. How to measure the externality? And what form of tax to adopt?

The most obvious indicator of impact is size. Big banks may be less risky because of economies of scale in risk measurement and because of greater portfolio diversification. They may be more risky if there are diseconomies of scale to management or if properties related to their size leads them to take on more risk.

Large banks may also be more risky because of moral hazard induced by the safety net. G-10 and EU countries have depositor insurance, which reduces or eliminates monitoring by depositors and thus allows banks' retail funding to be independent of risk. Most countries are secretive about the circumstances in which they would offer liquidity or solvency assistance. But some banks in all countries are believed by market participants to be too big to fail (Soussa, 2000). This belief amounts to a perception of a guarantee of some or all liabilities of such banks; if the banks are believed to be too big to restructure, then it also amounts to a guarantee of managers' jobs. It eliminates all market discipline and increases the incentives on bank managers to take risk.¹⁰¹

Estrella's suggestion for counteracting this moral hazard is "to insist that a firm not reduce its estimate of optimum capital as a result of unpriced or mispriced benefits from the safety net". It will insist using the tools of supervisory review. This approach "has the advantage of being preventive and frees the authorities from precommitment to nature and extent of rescue efforts." Unfortunately, this suggestion is quite impractical. Despite its clear disinterest in doing so, the bank would have to estimate the benefits and add them into its optimum capital requirement to produce a measure that is not of use for management purposes. Supervisors will never possess the information they would need to correct for this, and they do not have the incentives or the power. It is unenforceable. The only way to enforce it is to specify a calculation rule, which is a Pillar 1 approach, or to

require an extra lump of capital specified by the regulator using a qualitative approach (which means trigger ratios).

It is not known how the risk posed to the financial system by the failure of a bank (systemic risk) varies with the bank's size (or, indeed, with any other indicator). Understandably, therefore, the Basel solvency regime does not tax higher-impact banks. The Basel Committee implicitly assumes that internationally-active banks are of equal (high) impact. But the Basel regime is also applied to most domestic banks in the G-10, and the new regime is being designed with that in mind. The implicit assumption then must be that the benefits of diversification roughly equal the costs of systemic risk.¹⁰²

This assumption can be justified only by the current state of technology. However, it leads inevitably to punishment of lower-impact institutions, which is both inefficient and unfair. Measurement of diversification is improving rapidly. The Basel Committee has in principle agreed to the use of full credit risk models at some point in the future (BCBS, 1999a), and this will bring recognition of the major source of diversification at most banks. If it does, diversification will be rewarded, as will good systems and controls, while the marginal cost of imposing systemic costs remains zero. The largest banks, which are among the most sophisticated, will be the first to reap the benefits of credit risk modelling. They are also the banks that most benefit from bailout expectations. The current assumption that diversification and systemic risk balance out will then become untenable. The choice should then be between the pairs (systemic risk tax,¹⁰³ recognition of diversification) and (no tax, no diversification).

Neither minimum capital requirements nor disclosure requirements can currently distinguish between different levels of systemic risk (nor are there any plans that they should). Direct taxation or deposit insurance fees based on assessed systemic risk are potential alternatives, but are not used that way in practice to my knowledge. Another candidate tax is intensity of supervision. Indeed there is a hint of such an approach in CP2: "Supervisors should also consider external factors. These will vary in different situations and could include... a bank's significance in national and international financial markets and the existence and coverage of deposit protection." The elaboration of the second Principle of supervisory review contains the idea that "external factors such as business cycle effects and the macroeconomic environment should also be considered". But clearly, this is not much help. If a common supervisory response to business cycle effects is to take place, there will have to be much more detail.

This also suffers from the measurement problems mentioned above, although they need not preclude some rough and ready categorisations of impact; indeed, this is exactly what the FSA uses in its new risk-based regime (FSA 1998, 2000a). That the relationship between size and impact is not known does not require that it be assumed to be zero.

Even if such a differentiation is made, a further problem is this: how much supervision has enough effect on behaviour to persuade banks to internalise the risks? Since the link between supervisory actions and bank behaviour is not well understood, this cannot be answered. But I believe that the answer is: more than is feasible. In addition to the risks of supervisory failure set out above, big banks have greater political voice than small banks, greater than the regulator in most countries. Large banks are too big to supervise. It is precisely for these banks that the binding effect of rules on both regulator and

regulated is most beneficial. In reality, it is difficult to believe that Pillar 2 will offer much defence against systemic risk either.

Cyclicality

At every level of the organisation, bankers are rewarded for short-termism. Some of this pressure comes from ‘market discipline’ (Stein, 1989). Remuneration structures reward short-term risk-taking by traders. A one-year horizon for capital planning and credit risk assessment is modal, as is a one-day horizon for trading. Staff turnover is high in investment banking and at the top levels of banks, and unless remuneration structures adequately measure long-run risks, there are incentives to hit and run. If franchise value is related to market share, then it can be individually rational to respond to credit pricing cycles by investing in maintaining market share even during periods when the returns do not cover the costs of provisions and capital (Greenspan, 2002). In other words, through-the-cycle pricing may not even make commercial sense.

Banks’ use of short-term horizons shorter than the period of the credit cycle is one explanation for why they underprice risk in good times and overprice it in bad times. Provisioning against bad loans, which is largely discretionary and to which both earnings and capital are very sensitive, is also procyclical. This tendency exacerbates the amplitude of the business cycle and can also cause banking crises. Collateral valuation also plays a key role, since changes in the valuation of collateral can cause feedback effects into the volume of lending and investment (eg the financial accelerator).

This therefore is another area in which a regime that follows banks’ own practice may not improve systemic stability. Bankers’ optimal investment horizons appear to be shorter than those that are optimal for the system. Some policy responses suggested recently would be designed to induce banks to build up their capital ratios in good times so that capital can be drawn down in bad times (eg Borio et al. 2001, options two and three).

It has been widely noted that capital requirements in the new regime will vary over the cycle, and that this may exacerbate cyclical behaviour.¹⁰⁴ The effect may be worse for banks with lower-quality credit portfolios. The Basel Committee is aware of this problem and is working on ways of damping this effect. Indeed, it has already flattened the slope of the function that maps estimated probabilities of default to risk weights, which as a side-effect reduces the volatility of capital requirements resulting from credit migrations.¹⁰⁵ This will damp but not eliminate swings in capital requirements on a given portfolio. Furthermore, if assets commonly used as collateral (real estate in all countries, and equities in many) vary in a cyclical fashion, and if collateral valuations used to determine credit exposures also vary (ie collateral is revalued more than once per cycle) then capital requirements will follow suit. The Committee has recognised this possibility (BCBS, 2001c, para. 43) and has suggested a stress test approach to collateral.

Moreover, the Pillar 1 approach, even if it produced capital requirements that did not vary over the cycle, would not achieve a cyclically-neutral effect. In the current regime, the risk weights do not vary over the cycle,¹⁰⁶ yet the effect is procyclical: for most banks, capital constraints bind more in downturns, leading them to rein in lending during the bad times (Blum and Hellwig, 1995). Even a truly neutral effect would not persuade bankers to build up capital ratios in good times. If the Pillar 1 regime does not persuade banks to do this then supervisors need to do so: “Supervisory authorities should pay attention to

the adequate stability and conservatism of banks' internal ratings and should be given the possibility to use methods that ensure cyclical stability" (Danmarks Nationalbank, 2001).

But can supervisors really persuade bankers to save for a rainy day? It is hard to supervise when times are good and banks are reporting high profits. The banker does not want to know; his shareholders are more interested in return on equity than in solvency; and the supervisor's comfort zone is well below what the bank is reporting. Supervisors, like bankers, may be prone to disaster myopia in good times (Herring, 1999). Supervisors may not be able to point to quantitative information to back up their caution (Greenspan, 2002), especially if it is assumed that market discipline is always right (and control functions within banks face the same problem). In good times, supervisory discipline of an apparently profitable bank will appear unwarranted to those who hold the supervisor to account. Supervision is likely to be weak precisely when banks are acquiring risks for which they will not be adequately recompensed.

If so, regulators would have to commit to supervising more harshly in good times. In fact, existing precommitted regimes are designed to combat forbearance, and so have the opposite phase. This approach may therefore aggravate crises, as suggested by Danielsson et al. (2001). It may have also rather weak effect (Berger et al., 2000), perhaps because supervisory intensity does not have as much effect on bank behaviour as its proponents and exponents assume.

A partial solution is to require banks to conduct stress tests that incorporate the credit cycle. The Committee strongly encourages stress testing, and the qualitative standards for the use of VaR models and the IRB approach already include a stress testing requirement (for the latter, see BCBS, 2001a, paras 297-300). Unless there is an automatic link to capital requirements, the stress testing approach is really a Pillar 2 approach. If capital is to be simply a buffer, then it must be possible to draw it down in good times. This suggests that the amplitude of the stress should be reduced during bad times (possibly by some procedure specified in advance).

Models/internal risk measures

Reliance on banks' internal risk measures is the logical implication of the supervisory approach. However, when internal measures are used for regulatory purposes, bankers have incentives to manipulate the output. This incentive is stronger where regulatory capital constraints are binding.

One way of limiting incentives for manipulation is to impose a punishment for poor model performance.¹⁰⁷ If such a rule is to be incentive-compatible, then the bank must be required to hold at least as much capital for an undercalibrated model as for a well-calibrated model. The value at risk rules indeed contain a semi-automatic penalty function. Value at risk model performance is subject to a very simple test, and if model performance is poor, regulatory capital must be increased by a 'plus factor' (BCBS, 1996b). The rules were designed with the correct objectives of incentive-compatibility and simplicity rather than risk-sensitivity, and they strike a balance between accuracy and simplicity.

However, the cost of simplicity is extreme loss of information. The backtest suffers as a result from a severe loss of power to distinguish good models from bad. A pretty poor

model may still pass, and it is not clear whether the penalty function satisfies the incentive-compatibility constraint.¹⁰⁸ Moreover, in circumstances that are left vague, the regulator can choose not to 'count' the exceptions. There will always be pressure on regulators not to count exceptions. This pressure increases when regulatory capital is a binding constraint, particularly when capital is scarce in the system. As so often happens, what looks like a rule in fact permits discretion. Even with a small amount of subjectivity built in, the regime is not robust to renegotiation. Threats to discipline may lack credibility.

If a powerful backtest can reliably distinguish between the well and ill-calibrated, and if no override is possible, then backtesting can significantly improve the incentive-compatibility properties of models. In the VaR regime these conditions do not apply. In a credit risk modelling or IRB regime, the data limitations are far worse, and there is no chance of them applying.¹⁰⁹ This is much more of a problem, because credit risk is much the biggest risk. Since financial stability is a public good, using model outputs is rather like Lindahl pricing – a nice idea, but not incentive-compatible.

In order to limit manipulation, the IRB approach contains many pages of standards and comes with harsher disclosure requirements attached. However, the number of standards is a significant cost for banks, and particularly for small banks. The costs of regulatory complexity are not well understood by the rocket scientists who dominate the technical debate, but are well understood by many of those who run banks, and also by politicians. Compliance with all the standards will be a challenging task for banks, who will have to add layers of control to their operations. Assessment is also costly for supervisors. Indeed, it is questionable whether the many pages of standards actually can be enforced in any jurisdiction within the G-10, let alone outside it. For example, the German regulators¹¹⁰ intend to allow all 3,000 banks to use their own internal ratings for regulatory capital, yet they will not have the resources to enforce the standards. This may lead to an increase in banks' vulnerability, and in the expected cost of international spillovers. Under EU law (2BCD), it will be effectively impossible for other member states to do anything about the increased risk (there is a 'general good' waiver, but it is not credible that member states would use it in these circumstances).

A more sophisticated defence of models is to argue that it is efficient to use banks' private risk measures, and then to manipulate them to produce social measures of risk. The 1996 Market Risk Amendment, for example, does this by taking banks' models but imposing a longer horizon (ten days), a high standard of confidence (99%) and a multiplier (at least three¹¹¹). There is something in this argument. Bankers have more familiarity with their own risk measures: 'risk weighted assets' is a foreign phrase, and this is rather an obstacle to 'supervisory dialogue'. The IRB proposals are designed to give a high level of confidence in the survival of the bank over the next year. A bank's model output could be tweaked by multiplication (as VaR models are) or by the addition of a lump of capital that depends on the bank's size, to produce the regulatory minimum. There are two problems with this defence. First, it does not evade the failure externalities: knowing that scarce regulatory capital depends on the output of the model, and bearing no downside risk, bankers have incentives to manipulate the model to produce lower risk estimates. Secondly, scaling up private estimates of risk does not protect against behavioural externalities (if each bank protects itself in the same way, the system may be

less safe). The model may have parameters that make sense for the bank but not for the system: loan maturity in a credit risk model, for example; or a relatively short (one-year) time horizon. Lending to TMT companies when all other banks are lending adds to systemic instability; lending when they are not does not. Nor is the impact of failure likely to be linearly related to the financial risk to the bank. It may be more efficient to apply the tax more directly to the transaction of concern.

I have argued that standards are not observable, and will diverge. Like their VaR figures, the IRB statistics published by banks will not be comparable. Effective market discipline requires a greater degree of consistency (Crockett, 2002, implies the same point).¹¹² Neither Pillar 2 nor Pillar 3, therefore, can in practice correct for the undesirable incentive properties of risk-sensitivity.

Models are extremely useful in risk management, when used as part of an eclectic suite of measures. Eclecticism diversifies model risk; it may also reduce the tendency of different banks using the same risk measure to accumulate similar portfolios and to react in the same way to shocks. A highly beneficial side-effect of the inclusion of models in the capital regime has been an increase in banks' investment in risk measurement technology and research. Knowledge of credit and operational risk has certainly accelerated as a result of the Basel Committee's interest. Models are also useful to supervisors as insights into the business, and as indicators of tensions between regulatory capital and economic capital, as Estrella argues. The more a bank games the system, the greater will be economic capital minus regulatory capital. In summary, economic capital is a useful input into *supervision* but less useful in *regulation*. Furthermore, their use in regulation encourages manipulation, which reduces their usefulness in supervision.

12. Summary and conclusions

The Basel Accord revisions have proved less easy than anyone expected. This certainly is not due to any lack of expertise on the part of those designing the new regime. It is more that the task is hard, and the Basel Committee made it even harder by choosing the wrong objectives. The problem lies with its second and fourth objectives (see Section 3).

The fourth objective, risk sensitivity (which, incidentally, only appeared in the second consultation package), implies that private sector decisions are optimal. It should be replaced by the objective of incentive-compatibility. Its mis-specification has led to harmful confusion between Pillar 1 and Pillar 2, between Estrella's 'optimum' and 'minimum' capital.

The second objective, competitive equality, is not so much wrong as misleading. Set down so briefly, it biases the thinking in favour of full harmonisation. The regime is intended to set out minimum standards for mutual recognition, not to harmonise actual standards. It encourages supervisors and others to think that if supervisory practices diverge, there must be a net loss. This may not be the case.

As a result of these misspecified objectives, the proposed regime is flawed. It emphasises the virtues of the supervisory approach, but neglects the costs. The net benefits of supervisory review are sensitive to the incentives structures. Beneficial supervisory regimes are difficult to build, and in many countries there is no reason to think that

supervisory discretion would be beneficial. In other countries, it is legally and politically problematic to give supervisors discretion, or for supervisors to use it.

The relative costs of the supervisory approach are greater in an international context. There is little commonality of purposes or powers at present. The supervisory approach necessarily relies on qualitative standards and principles, verification and enforcement of which are difficult. The supervisory approach is therefore inconsistent with the aim of harmonisation implicit in the competitive equality objective. The capital adequacy framework cannot therefore be accurate, verifiable and comparable (Karacadag and Taylor, 2000b). In the new framework, the Committee has accepted a loss of verifiability and comparability in order to achieve the flawed objective of accuracy.

I am pessimistic about the ability of rules, supervision or market discipline to achieve what is required. There is moral hazard everywhere, and it is difficult to conceive of a regime that will eliminate all of it. I now offer some alternative recommendations, which are subject to the same caveat. They are not intended to be the finished article, but to provoke further discussion.

Before presenting them, I must pre-empt the inevitable criticism from any reader who may have persisted this far: the recommendations are politically naïve, or, equivalently, they are late. The Basel Committee is too far down the road to be able to make radical changes of the sort that I suggest without unacceptable loss of face. That charge may be correct. Nonetheless, the Committee's genuinely (perhaps excessively) consultative approach gives the Committee room to change its mind, and the delay to the publication of the third consultative paper has created expectations of material changes. The Committee has received wide support for its three-pillar approach, but support for the detail of the proposals has fallen as the complex and difficult personality of the new regime has been revealed. If stakeholders suggest alternatives, the Basel Committee can properly present changes of mind as a response to consultation.

Convergence, co-ordination and harmonisation

If the Basel Committee views the current extent of harmonisation as broadly optimal, as I assume, then it would regard divergence of capital adequacy rules under the new regime as undesirable. However, before taking any further action the Committee should take stock and consider which parts, if any, of the regime require near-complete harmonisation and which do not. It can then design a structure that delivers the required amount of co-ordination.

The nature and impact of supervision depend on domestic laws, attitudes to equality and competition, and regulatory accountability. If these underlying factors converge, more reliance can be placed on the qualitative in co-ordinated international standards, since regulators will choose more consistent approaches of their own free will. Clearly, this is something of a tall order, and very little of it is within the gift of regulatory authorities. Indeed, preferences and endowments are more fundamental than regulatory standards. It would be perverse to try to force these fundamentals to converge so that regulatory standards may converge.

Regulators should work on the assumption that complete supervisory convergence is impossible and undesirable. Qualitative standards and principles are incompatible with

the competitive equality objective. In the context of Pillar 2 it is better to give up on this objective. An approach in which the principles are agreed, but the implementation of the principles is subject to national discretion appears most sensible, and this is, after all, consistent with the predominant 'soft law' model used for the other standards listed in FSF (2001).

If near-harmonisation of Pillar 1 capital adequacy standards is required, the regime must rely to the maximum possible extent on observables - formulae, not qualitative standards and principles. (This view is in fact similar to that of Estrella, 1995.)

What is perhaps within the power of regulators to achieve is a common understanding of the strengths and weaknesses of supervision itself, and of different supervisory approaches. The Basel Committee could devote more time to thrashing out a more consistent, if not monolithic approach to supervisory review in general, and no doubt it is. A programme of staff exchanges might have a mildly beneficial effect.¹¹³ However, this is hardly a new approach. The need for international communication has been noted ever since the original Basel Concordat was not published in 1975, and the telephone lines and aeroplanes have been getting busier ever since. Expectations should therefore be realistic.

Different agencies may have unnecessarily different ideas about the purpose of the rules. The EC Directives have not in general set out the goals clearly. Different objectives are listed in different Directives, hidden between large numbers of less important recitals.¹¹⁴ "The recitals to a Directive have legal value as an aid to interpretation, they shed light for the reader on the intentions of the Community legislature." (European Commission, 1997).¹¹⁵ There might be some value in trying to set out some commonly-accepted objectives and principles in the recitals.

In the European context, the Groupe de Contact of senior bank supervisors has been working on a shared set of guidelines for supervision, which has the potential to prove useful in limiting divergence and promoting best practice while allowing for national differences and avoiding legal problems. It must, of course, work within the national law by which each regulator is bound.

Regulators also need to maintain continued discussions about their approaches to applying existing Pillar 1 standards. The enormous efforts required by the Basel 2 review have crowded out discussions of the standards for value at risk models. Discussion of the new IRB standards will be needed for years. In the EU, a committee of bank regulators called GTIAD¹¹⁶ makes recommendations about the interpretation of Directives to the Banking Advisory Committee, and the Groupe de Contact is advising on the supervisory aspects of the new regime.

Rules redux

There is a wedge between what banks want to do and what they should do. Prudential regulation constitutes a sort of tax on those for whom the rules are binding. All taxes increase incentives for tax minimisation and tax evasion, and regulatory arbitrage is the regulatory equivalent. Yet despite the problems, governments still levy taxes, in the absence of better inventions for raising money. Optimally, the tax should be applied until the marginal deadweight losses of the tax equal the marginal benefit of the reduction in externalities. The Committee's 'risk-sensitive' approach is equivalent to giving up on the

tax. The Committee should replace the search for ‘risk-sensitivity’ with the slogan ‘tax the externalities’.

An alternative approach would be to scrap the reliance on internal measures. (Such an approach would also eliminate the possibility for adverse selection generated by the menu approach.) The Committee could retain its revised standardised approach, which bases credit risk weights on independent ratings issued ‘ECAIs’: rating agencies and export credit guarantee agencies. This is not to say that the standardised approach is without problems. Issuers will now have stronger incentives to purchase ratings only from the most generous; rating agencies will face a dilemma between trying to maintaining their reputation and maximising revenue, and since lowering of standards will only be revealed with a significant lag, some may go for the revenue. In the aftermath of Enron, regulators are likely to be less willing to rely on reputation alone to guard against conflicts of interest. Regulators do not want to regulate rating agencies, but it remains to be seen whether regulation can be avoided. Secondly, national regulators wishing to race to the bottom will have incentives to recognise lax rating agencies so that their banks save on capital. The solutions would be to introduce entirely objective recognition criteria, which would be very difficult, or to centralise the process of recognition. Thirdly, the Committee, in framing the rules, should consider the externalities more carefully than it has hitherto. I have touched on the difficulties of measuring the different size of the failure externality in a previous section, but the Committee could perhaps do more to reduce the major behavioural externalities generated when all or most banks follow what the standardised approach rules suggest.

The first is that even the standardised approach will be procyclical, although less so than the IRB for two reasons. First, banks’ ratings tend to focus on the point in time (typical horizon: one year) while external ratings are more commonly a compromise between through-the-cycle and point-in-time and so are less volatile. Secondly, the function mapping ratings to risk weights in the standardised approach is flatter than that in the IRB approach. Most rating migrations result in no change to the capital requirement, but when they do, the discontinuities between the risk buckets are large: on a rough and ready calculation, the impact on a sovereign borrower of being downgraded one notch from A- to BBB+ would be of the order of 50 basis points, and from BBB- to BB+ would be 80 bp.¹¹⁷ The Committee could consider introducing intermediate risk weights. Jorion (2002) argues that while risk measures that react slowly to new information may be seen as statistically weak, there is an economic benefit to smoothness. The Basel Committee could also consider smoothing the effects of rating transitions by using moving averages.

The second herding externality is that the standardised approach continues, albeit in a much more restricted way than the 1988 Accord, to subsidise short-term interbank lending. This short-term carve-out, restricted to three months or less¹¹⁸ in the second consultative paper (BCBS 2001a, 16, option 2), has been retained because of worries about a loss of liquidity in the interbank market. However, the carve-out is not justified and should be abolished, for three reasons. To an individual bank, a short-term loan is less risky than a long-term loan; to the system, it is not (for the same reason, capital requirements in the advanced IRB approach should not depend on banks’ estimates of maturity, and the preferential treatment of mortgage bonds in the EU scrapped). Secondly, the carve-out amounts to a subsidy of the liquidity of a single credit market,

the rationale for which is dubious.¹¹⁹ Thirdly, interbank lending is an important vehicle for the propagation of contagion, and has grown in recent years: it is perverse to subsidise interbank lending when it increases joint failure risk.

If the Committee is to retain the IRB approach, it will have to accept that the capital regimes will diverge. Almost paradoxically, it might be possible to increase the standards of enforcement by pruning the number of standards.

The Committee could also concentrate on reducing incentives for avoidance. In the Basel context, there are two ways of doing so: first, rigorously enforce simple rules. Secondly, change the rules that treat similar things very differently and so encourage manipulation. The rules that reward securitisation but not diversification are the worst but not the only problem. Rules will, of course, continue to fail, and to generate wasteful avoidance strategies. It is probably impossible to design a regime that is simple, taxes externalities and contains no such distortions. Supervision is a particularly good tool for controlling the effects of gaming – if it works.

The promised movement in due course towards full modelling of credit risks could be a mistake. It would rely too much on supervisory standards which are inevitably different; it would increase the risk of systemic instability as a result of interdependent choice; it would unfairly benefit large banks unless they were also subject to a tax on their systemic risk that varied with some estimate of systemic risk; and it would further blunt the impact of market discipline by reducing comparability. Furthermore, credit risk models may overestimate the benefits from diversification, partly because reliance on a source of diversification will tend to disappear if other banks are also relying on it (Persaud, 2000); and partly because diversification may not in practice improve the soundness of the system (Acharya et al., 2002). As Acharya and co-authors note, “the optimal industrial organization of a banking sector might be one that comprises several focused banks instead of a large number of diversified banks, an outcome that may also be attractive from a systemic risk standpoint.”

If diversified loan portfolios cannot safely be treated more generously, then securitisations and other baskets must be treated more harshly. This would be very unpopular with banks, since it would increase overall capital. After fourteen years of regulatory arbitrage, the protection offered by an 8% ratio is small, so an increase might be beneficial. However, it would not be consistent with the Committee’s objective of maintaining overall capital (for the probably fictional internationally-active bank on the standardised approach). The solution would be to recalibrate overall requirements.

It is often argued that securitisation (including synthetic securitisation) allows a more efficient allocation of financial risks and thus should reduce the optimal amount of regulatory capital overall. However, the amount of the reduction in the current regime is very large, and probably out of all proportion to the allocative efficiency gains. Indeed, it may be argued that there should be no reduction in capital at all. The gains from trade are not guaranteed. The fundamental theorems of welfare economics, which assert the Pareto-optimality of competitive equilibria, do not apply in condition of imperfect information (including asymmetric information) and externalities (Greenwald and Stiglitz, 1986) and so do not apply to banking. Because banks tend to herd, for example, parcelling risks around the system allows banks to achieve more (privately) efficient

portfolios, but it also increases the homogeneity of banks' risk profiles. The instability of the financial system in response to shocks is increased, as banks with similar models and portfolios all wish to take the same side of the trade (Morris and Shin, 2000).

How the aim of eliminating aggregate capital reductions from securitisations should be achieved would be a matter for the Committee; indeed, the Committee has made a start by proposing a harsher treatment of originators.

It must be emphasised that reliance on discretionary supervision (and enforcement) probably cannot be eliminated in a capital regime; it is simply a matter of degree. No rule can be fully committed, with no possibility of discretionary waiver. The most important source of discretion in the Basel regime remains the valuation of assets (which, in a system of accrual accounting, really means provisioning). Any conceivable regime will rely to some extent on distinctions that are defined only in their usage; the point of this argument is to emphasise the need to minimise this reliance.

Rules of change

Complexity and change are problems for rules. Hart (1961) argued that society solved these problems by introducing other kinds of rules known as secondary rules (of recognition, change and adjudication). The procedures for changing rules (the 'rules of change') are not imposed from outside but, indirectly, chosen by society.

If innovation is rapid, as it is in banking, then the balance between flexibility and certainty is shifted in favour of flexibility. Rules need to be changed more quickly. In such a case, society may need to reduce the cost of changing rules, either by delegating more or by streamlining procedures (or, preferably, both). Supervisory policy makers need some flexibility in designing capital and supervisory responses to new products. If they do not have this flexibility, the resulting outcome will almost certainly be inefficient.

There is perhaps no reason in principle why soft law should be any easier to change than hard law, particularly where, as with the Accord, the law is not entirely soft. It comes down to procedure. However, in this case, soft law is easier to change. The Basel Committee can change the rules quickly and informally when it wants to, and not always by issuing an official amendment to the Accord.¹²⁰ That the Basel Committee is able to achieve technical progress at a pace greater than the industry can manage is remarkable. The Basel 2 review has taken a long time because the banking industry is understandably keen to get the new rules right, and needs time to deliver what its lobbyists have been claiming during consultations to be established practice. The process of change in Basel need not be streamlined.

The EU's co-decision process for producing and amending law¹²¹ is designed to balance an intergovernmental and directly democratic approach. The procedure is involved, however, and proceeds at glacial pace. All agree that the European approach is too slow; what is not agreed is who must submit to the self-denying ordinance needed to accelerate change. Each institution agrees that legislation should be fast-tracked where possible, but not at the cost of its own influence.

An alternative process that would effectively increase the number of rule types and accelerate amendments within the existing treaty structure is set out in the Lamfalussy Report (2000). Level 1 consists of a Directive or Regulation containing 'framework

principles and the definition of implementing powers'. Level 2 consists of 'technical implementing measures'. At Level 3, a European Regulators' Committee produces "joint interpretation recommendations, consistent guidelines and common standards, peer review, and compares regulatory practice to ensure consistent implementation and application." Some of these may feed back into EU law, so that soft law is legalized over time, but not in all cases.

The Lamfalussy recommendations were endorsed by the European Commission, approved by the European Council at Stockholm in March 2001, and by the European Parliament in February 2002.¹²² The debate effectively hinged on the definition of 'implementing measures', ie who had the right to define interpretation in specific cases; matters of implementation may be made subject to a comitology procedure, the effect of which is that Parliament delegates. The European Parliament is, accordingly, mistrustful of comitology and appears likely to take a narrow view of what counts as 'implementation'.

Lamfalussy's subject was securities legislation, not banking. However, the report has wider import, as has been acknowledged by Wim Duisenberg, among others. The Lamfalussy hierarchy seems a particularly efficient approach to supervisory review, where high-level principles are not enough to bind, and yet the details are hard to write down and liable to obsolescence. The Banking Advisory Committee effectively possesses comitology competence for parts of the Own Funds, Solvency Ratio, Large Exposures and Second Banking Coordination Directives, but has seldom if ever acted in comitology mode.¹²³ If the EU supervisory approach is to be successful, it will require informal agreement on best practice outside the purely *legislative* structure of the EU (ie at Level 3, perhaps by the Groupe de Contact, which has been meeting since 1972 independently of the EU structure). While negotiations between the three European institutions continued, the European Commission tried to ensure that a distinction is made in the CAD3 proposals between the high-level and the implementing guidance.

I have argued that Pillar 1 capital adequacy approach should be largely harmonised, and should therefore be based on quantitative rules. The Lamfalussy approach is not inconsistent with harmonisation. Harmonisation would be consistent with a framework Directive that laid down the objectives in the preamble, and left the production of binding implementation measures (containing quantitative rules) to comitology. Such an approach would allow the EU to keep up, but such a degree of delegation is politically inconceivable at present.¹²⁴

Enforcement

Enforcement is "the Achilles' heel of [soft law] standards" (Giovanoli, 2000, 45). In the EU, a binding enforcement mechanism already exists. However, it has hitherto been too weak in practice (Lamfalussy et al., 2000, Level 4).

For the international regime to fail to be able to take advantage of potential gains because of an authority gap in enforcement seems inefficient. If the new regime is to be less observable than the old, and *if* the current degree of harmonisation is deemed desirable, then the institutional property rights will have to change. In order to improve their ability to perform on otherwise unenforceable promises, Basel Committee members should give themselves the right to be punished. It need not go so far as to turn soft law into hard law.

It should be noted, however, that the Accord has ‘hardened’ over time, and, as Giovanoli points out, “more often than not, soft law has proved to be a precursor of emerging hard law”. There are at least three clear options, none free of flaws.

- First, agreements could be made binding, and give dispute resolution or enforcement powers could be given to a separate international body. Commitments binding on states would constitute hard law. Giovanoli (2000) recommends a framework Directive structure (a treaty binding at the level of principle). Enforcement candidates would include IMF or World Bank, the World Trade Organisation (which produces binding resolutions of trade disputes), or a World Financial Authority (Eatwell and Taylor, 2000). The question is whether the IMF and World Bank can credibly discipline their major funders, and on the other hand, whether the WTO - which is willing to rule against anybody - would have the expertise to judge. (The WTO, however, has to acquire this expertise as a result of its GATS responsibilities.)
- Secondly, verification could be granted to a private sector third party, as the European Commission has occasionally appointed private-sector accounting firms to report on the transposition of the banking Directives. Again, however, there could be conflicts of interest, since the member agencies could also be significant clients or regulators of the firms, and confidentiality problems.
- Thirdly, the Committee could formalise its ‘sharing of experiences’ into a system of peer review. There is a precedent to which each Basel Committee and EU member country has assented. The Financial Action Task Force conducts ‘mutual evaluations’ of the compliance with its ‘Forty Recommendations’ by its 29 members.¹²⁵ Peer review could come in two flavours of punishment. The first would retain the non-binding status of the Accord. The monitors’ opinions could be communicated to the authority concerned and to other members; this would have some suasive power, but there would be a high risk of leaks. Opinions could also be published, which would have greater enforcement power but would be more vulnerable to manipulation. A second approach would be to introduce a sanction mechanism.

In order to assess implementation under any of these models, it is not enough to look at the rulebook. Assessment must cover how rules are interpreted, and what standards are applied. Such assessment would have to be intrusive, and could not be done from a distance. It should also be noted that the number of people qualified to make such judgements is limited. Whether or not the judgement were made by peers or by a third party, the people making the judgement would probably have to be drawn from the national authorities (as they are for FSAPs). As Giovanoli points out, international authorities may be seen to carry greater authority, and be more neutral, than peers.

Politically, it may be easier to maintain the soft law approach, but to harden it slightly, rather than moving straight to hard law. For this reason, I favour the third approach as a first step, with the threat of further hardening if it does not work. The notion of peer review is repellent to some Committee members, perhaps since it brings the threat of embarrassment. It might have to be imposed on the Committee by an international body

with greater authority.¹²⁶ It must be emphasised that this proposal is intended to apply only to Basel Committee members, so that there should be no legitimacy gap.

Alternatively, the Committee (and the European Commission and Banking Advisory Committee) could decide that the degree of decentralisation in a capital regime in which unobservable rules and standards are voluntarily observed is acceptable. If so, the soft law approach remains appropriate. The first pillar of the new Accord would then constitute something much more like the other international soft law standards, including Pillar 2; it could then, no doubt, be streamlined. The corresponding European Directive could then be truly a framework Directive. This would seem to require a large change of heart on the part of participants, although small components of Pillar 1 effectively use such an approach. For example, the Committee will agree principles for the recognition of physical collateral in the IRB approach, but the exact definition will be left to national discretion.

Developing countries

I have argued that without the correct incentives and support for supervisors, relying on supervisory discretion will be costly. The danger is that developing countries will come under pressure from other countries, from international bodies and from the markets to implement the discretionary parts of Basel2, so that Pillars 1 and 2 both fail. For most developing countries the 1988 Accord, which is itself inadequate for the circumstances of many developing countries (not having been designed for them), is much better than Basel 2 taken as a whole. If the two are compared on a like-for-like basis, however – that is, the 1988 Accord credit risk weights are compared with the standardised approach to credit risk – then the new Accord could well be an improvement, particularly if the procyclical effects can be damped.

In my view, the effect on developing countries is the biggest weakness of the current proposals. Fortunately, the problem could be the easiest to fix and is perhaps the most likely to be fixed. These fears are widely shared. “Even G-10 supervisors may find it difficult to verify the accuracy of a bank’s internal rating system, let alone most supervisors in developing and emerging economies.” (World Bank, 2001). Senior central bankers such as Clementi (1999) and Meyer (2001a) have expressed similar concerns. However, no doubt conscious of their lack of legitimacy in this context, they have shied away from stating the logical conclusion, which is that reliance on internal risk measures is a luxury appropriate, at best, only within a strong supervisory structure.

Furthermore, even if the discretionary approach is accepted as the appropriate long-term goal, it is not obvious that the best route to this goal is to increase the role of discretion as fast as possible. Improving the ability and incentives to supervise financial institutions will inevitably take time – several years at least - as noted by Lamfalussy (2000), Karacadag and Taylor (2000), and Hawkins and Turner (2000).

An unintentional side-effect of the Basel Committee’s three-pillar approach is that it may reduce emphasis on other useful policies. Indeed, as they invest in improving the institutional infrastructures to support the three pillars, countries may be better off relying on other pillars altogether. It is not easy to identify the right answer, and indeed it is not the purpose of this paper. A one-size-fits-all approach, except at the most abstract level, is likely to be inappropriate. All that can be said with confidence is that promoting a rich-

world model that may not work even in the industrial countries is not likely to be the answer. However, I would make two general recommendations.

- The general aim should be to improve the incentives of bankers and supervisors. Bankers and shareholders, in particular, need to have a stake in the survival of the bank. They must expect to make profits, and they must expect to suffer in the event of a failure. If they do have a stake in the future, they are likely to control risks, take a longer-term view and monitor and screen borrowers more closely.
- If standards and principles rely on discretion, and discretion cannot be trusted, then the regime must be based on simple rules. Rules should require less skill to enforce, and they provide supervisors with some protection against political interference.

Bankers should be allowed and encouraged to make profits. If managers and shareholders have a stake in the future of the bank, the effectiveness of prudential regulations become less important: bankers have reason to hold capital anyway. Policies repressing bank profits (negative real interest rate ceilings, high reserve requirements, forced purchases of government bonds) exacerbate incentive problems. Policies promoting competition are not necessarily optimal, and indeed entry restrictions may be a useful tool. (The problem is that they are likely to induce corrupt practices.) Similarly, Hellmann et al. (1995) argue for entry restrictions and deposit rate ceilings set at positive real interest rates, to increase banks' potential to earn economic rents and so increase their stake in survival. Punishment in the event of failure should automatically include the replacement of management. In some countries, replacing management may not be within the power of regulators, in which case the law will need to be changed either to permit, or, preferably, to require the regulators to replace management in the event of solvency support. Caprio (1996) recommends various options designed to increase the stake of bankers, including free banking, narrow banking, higher capital requirements, entry restrictions and increased liability for shareholders in the event of insolvency. Caprio and Vittas (1995) report that in Scotland in the free banking era, shareholders had unlimited liability and, not surprisingly operated with high capital ratios (while Scottish per capita income grew quickly). Some US states in the early nineteenth century operated a double-liability rule for shareholders.

Banking crises tend to be more costly in developing countries (Caprio and Klingebiel, 1996). Developing countries should therefore consider introducing capital adequacy and prudential rules that are tougher than the Basel minimum (Caprio, 1996, and Hawkins and Turner, 2000). They should, for example, consider copying the approach of Hong Kong and Colombia (among others), setting ratios higher than 8% for all banks. Setting individual capital ratios is not recommended, at least until supervisory discretion is shown to work. They could consider adding simple treatments of risks excluded from the Basel regime. Interest rate risk in the banking book and residual risk on collateralised transactions are both very serious risks for many banks. Again, however, such stringency may have beneficial effect only when capital is properly calculated. Barth et al. (2001) find little relationship between capital stringency and bank development and non-performing loans. Capital adequacy rules, because they can be manipulated by banks, or by banks in collusion with regulators, can easily fail. And when capital is very likely to

be overstated as a result of chronic underprovisioning, a 25% large exposures limit may not be tight enough.¹²⁷

It is possible that the adoption of the Accord in many countries has not contributed to bank soundness but has in fact provided false comfort to regulators and depositors. In such cases it may be that other, cruder approaches to soundness might be more effective than setting high minimum capital ratios; there is an argument for dropping the Core Principle that requires that capital ratios be at least equivalent to Basel standards.

Hawkins and Turner (2000) recommend that until the fundamentals are in place, regimes should rely on simple solvency rules, liquidity rules, large exposures limits and reserve ratios. To these one might add foreign exchange exposure limits and connected lending restrictions. Moreover, in countries with less-developed regulatory capacity, micro regulation may be relatively expensive. Eatwell (2000) notes that “microeconomic regulation may be a means of reducing systemic risk, but macroeconomic action may be more efficient”.

Rules are only as good as their enforcement, and in many countries enforcement lacks credibility because the weak infrastructure does not correct the private incentives (Giannini, 2001). Since discretion cannot be wholly eliminated, actions to improve the incentives of participants cannot be avoided; this is the beneficial aspect of ‘enhanced supervisory capacity’. For example, while a double-liability rule is simple, it is not trivial to enforce, and the same applies to other rules. Shareholders may disappear; more commonly, they may set up opaque ownership structures. A double-indemnity rule would therefore require that supervisors had the power and responsibility to withhold or withdraw authorisation from banks with opaque ownership structures (something like the Post-BCCI Directive in the EU).

A rule restricting connected lending is of prime importance. Where borrowers are also owners, they have incentives to loot.¹²⁸ Rules on connected lending are common, but routinely evaded, partly because it is easy to set up affiliate companies with different names, and because this is difficult to spot. However, bank failure is so commonly associated with connected lending that it is worth devoting substantial resources to enforcement. Again, post-BCCI rules would help supervisors to identify the owners.

What can the rich countries and the IFIs do? First, they can try to do no harm. Countries intent on enhancing their financial stability should be encouraged to focus first on institutional investments embodied in the Basel Core Principles (excluding principle 6), and on the other sets of standards set out in FSF (2001). The Core Principles, rather than the Accord, should continue to be the primary standards judged by the IMF and World Bank; if the sixth principle is retained, the IFIs could make clear that adherence to the 1988 Accord is consistent with it. The IMF and World Bank should not put pressure on countries to increase the role of supervisory discretion until they are satisfied that the necessary conditions for supervision to be useful rather than harmful are met. (The IFIs may already have this intention, but the responses to the Basel Committee’s second consultative paper have left room for doubt.) They could also point out in their FSAPs where, in their opinion, a country’s infrastructure is not strong enough safely to permit the expansion of regulatory discretion.

The Basel Committee, IMF, World Bank and others could try to educate market participants, using the lessons learnt from the Sheng Report, so that they punish regimes that unsafely rely on models in particular, and supervisory discretion in general.

The Basel Committee should clarify what it means by the Accord's 'underlying principles' being suitable for wide application. What, indeed, are the underlying principles, and why are they suitable? The Committee should make clear that the use of discretion as a substitute for rules can only be successful under certain strict conditions, likely to be satisfied only by those with advanced legal and regulatory infrastructures. The Committee, together with the Core Principles Liaison Group, should publicly discourage regimes from contracting out regulation to their banks by relying on banks' risk measures.

The market access incentive depends on whether the Basel I regime is still to be considered 'adequate' or 'equivalent'. The Committee should either state that the 1988 Accord may be considered a Basel-equivalent regime, or state that countries implementing the standardised approach alone ('Basel 1.5', perhaps) will not be subject to access restrictions, so that countries do not come under official pressure to implement a dangerous regime and can implement Pillars 2 and 3 in stages (banks in the EU will in any case be bound by international accounting standards by then). The European Commission and Banking Advisory Committee should do likewise, so that EU regulators are not forced to punish those choosing to stick to the 1988 Accord or implementing only the standardised approach.¹²⁹ Failing that, there is wide scope for interpretation within the Directives, and the regulators in the largest international banking centre - London - could take a unilateral lead.

This a bigger problem for the EU, because it requires the accession countries to adopt the entire *acquis communautaire* subject to negotiated waivers. In this case, it would be better - both for existing EU members and for the acceding countries - to allow the accession countries to concentrate on getting the basic rules right before implementing Pillars 2 and 3 and the discretionary parts of Pillar 1; otherwise each pillar will not support the structure but merely add weight.

Figure 1: the supervisory process

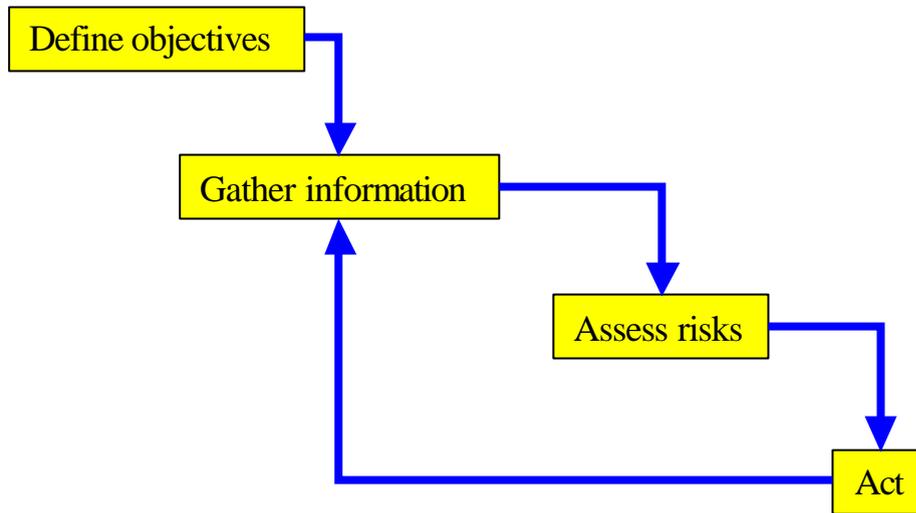
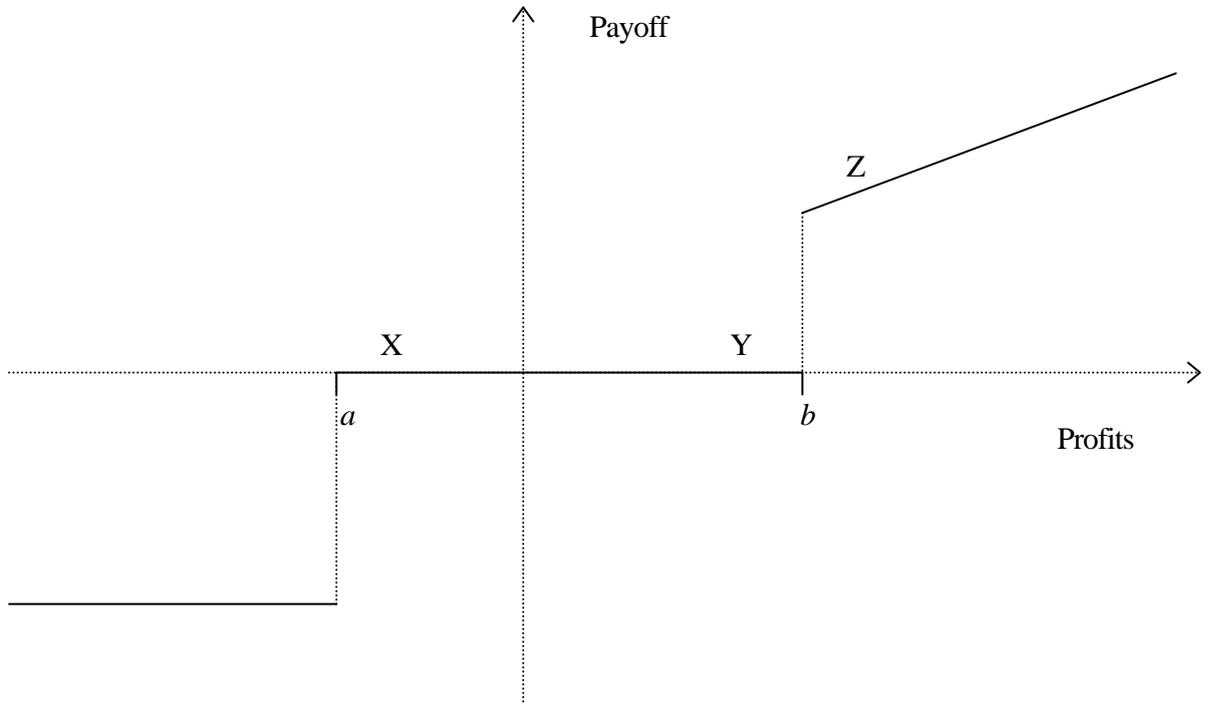


Figure 2: a typical remuneration profile



Appendix – Glossary

Basel Accord: a 1988 agreement by the Basel Committee to enforce a minimum solvency ratio of 8%.

Basel Committee on Banking Supervision: a group of central banks and bank supervisory authorities in the G-10 countries, which meet at the Bank for International Settlements in Basel and produce common agreements and standards, not binding in law.

Basel 2: the proposals from the Basel Committee to review the 1988 Accord. The first consultative paper (CP1) was published in June 1999, the second (CP2) in January 2001. At the time of writing, the date of publication of the third is rumoured to be May 2003, with the final rules to be published later in the year. Implementation of the new regime is planned for 2006 at the earliest, but it is not clear whether the iterations are converging on a finite number.

CAD3: Third Capital Adequacy Directive, yet to appear in draft, a codename for what will be the EU equivalent of Basel 2.

EEA: European Economic Area. A free trade area comprising the European Union member states plus Norway, Liechtenstein and Iceland. Entered into existence in 1994. The three non-EU members are committed to implementing Community legislation into national law in areas covered by the 1992 EEA Agreement.

FSAP: Financial Sector Assessment Program, a joint World Bank/IMF assessment of the vulnerabilities in a country's financial system and in the way it is managed. Invented in May 1999, after the Asian crisis.

G-10: a self-selected group of rich countries. The G-10 countries are Canada, the USA, Sweden, Italy, France, Germany, Belgium, the Netherlands, Sweden, and the UK are the G-10; and Switzerland always attends too. Sometimes used as a shorthand for the Basel Committee, but is actually a group of countries defined by their contribution to IMF GAB. The Basel Committee has representatives from 13 member countries, Spain and Luxembourg being the other supernumeraries.

IRB approach: an approach to regulatory capital requirements that will allow banks to use their own model inputs (probability of default, plus loss given default and maturity in the advanced approach) in calculating a regulatory capital output. The IRB approach falls short of full-blown credit risk modelling because estimation of correlation between model inputs (most commonly, default probabilities) is not permitted.

Pillar 1: minimum capital adequacy requirements. In Basel 2, these can be based on banks' own credit risk and operational risk assessments.

Pillar 2: supervisory review. Exegesis in the main text.

Pillar 3: mandatory or encouraged disclosure 'as an aid to market discipline'.

ROSCs: Reports on the Observance of Standards and Codes, conducted by the World Bank or IMF.

Solvency ratio: the ratio of capital to a crude measure of risk known as Risk Weighted Assets. Also known as a risk-asset ratio and (in France) as the Cooke ratio.

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¹ This historical summary is largely based on Giannini (2001).

² I use G10 as a (somewhat inaccurate) shorthand for the 13 Basel Committee member countries (see Glossary).

³ For a history of the Basel Committee and its Accord, see Herring and Litan (1995, Chapter 4) and Follak (2000).

⁴ In the case of bonds, this is essentially idiosyncratic risk from which a common factor of yield curve risk has been stripped out. A major component of this specific risk is default risk.

⁵ These are intended to be at Level 1, in the terminology of Lamfalussy et al. (2000).

⁶ Rational approaches to the problem are likely to have these steps in common, but will differ in the details. So, for example, this model may be seen as a simpler and more general version of FSA (2000a) Figure 1.

⁷ These two sentences are one reason why capital requirements for operational risk are difficult to design.

⁸ Most supervisory agencies split their supervisory staff into different functions, the most important split being between those with overall responsibilities for specific institutions, and those whose responsibilities relate to the management of a particular kind of risk across all institutions. Here and for the rest of the paper I have in mind the generalist ‘relationship manager’.

⁹ I pick on Estrella partly because his work at the Federal Reserve Bank of New York gives him some influence, but mainly because his clear and thoughtful articles persuaded me for some years. If the Basel Committee had produced a full justification of its approach, I would have considered that; but the Basel Committee enjoys the privilege of producing statements *ex cathedra*, and finds it difficult to avoid doing so. The Committee is a set of members with diverse interests and attitudes. It is no surprise that the Committee is not good at producing justifications for its rules. In fact, it is more surprising that it is able to produce the rules at all, working as it does by consensus. I have found only two explanations from the Committee, both of which are quoted in this article.

¹⁰ This relies on the explanation of Hart’s work given in Murphy and Coleman (1990) and Dworkin (1978).

¹¹ Hendry (2002) provides one such attempt.

¹² Banks are large in comparison to people, and so even without limited liability one might expect bank failure to cause damage even after its owners have surrendered all their assets. But it is the corporate limited liability constraint that binds first.

¹³ In option terminology, vega is highest when a plain vanilla option is at the money, so that the shareholder’s wealth is improved more by increasing risk at the payoff ‘kink’ than elsewhere. Not coincidentally, the pure time value of the option (option value minus in-the-money amount) is also greatest in the region of the strike price. (The option vega also declines with time to maturity.)

¹⁴ The European Commission takes an activist approach in the area of state distortions. It regards the state recapitalisation of WestLB as an illegal state aid (Decision C (1999) 2265, 8 July 1999) and required the German government to recover the illegal aid. WestLB sued at the Court of First Instance (Case T-228/99). The European Commission and German Government reached an Accord on 17 July 2001 under which state guarantees can be maintained only until 18 July 2005. The Commission had previously issued three decisions concerning Crédit Lyonnais; it decided in December 2001 that an Italian bank tax discount was incompatible with state aid rules; and in January 2002 decided that Crédit Mutuel had been overcompensated by the French government for operating a savings product known as le ‘Livret Bleu’. Crédit Mutuel is to appeal, with the French government’s backing.

¹⁵ Although high-franchise value banks have more reason to hold high capital and less-risky assets, a bank’s actual capital ratio is not in general equal to its private optimum (as a result of shocks and adjustment costs), and so should not be taken to be reliably indicative of franchise value. A bank suffering a negative capital shock will have strong incentives to rebuild capital and reduce risk if it has high franchise value, and incentives to gamble for resurrection if it does not.

¹⁶ Vega is positive for plain vanilla options.

¹⁷ Although created independently, the diagram can be seen as a slightly simplified version of Goodhart et al. (1998, 49) Figure 3.3.

¹⁸ Council Directive 89/646/EEC. References in this paper are to the original banking Directives, most of which have been since consolidated into a single Directive (2000/12/EC).

¹⁹ Financial services are included in GATS, the General Agreement on Trade in Services. A suit may be brought to the WTO on the grounds that regulatory standards are too high and constitute a non-tariff barrier. The only permissible defence is that the standards are required for prudential reasons.

²⁰ In 1995, under pressure from major shareholder Warren Buffett, Salomon Brothers linked staff bonuses with return on capital, more than two dozen members of staff quit. It turned out to be individually irrational for Salomon to improve its policy, and the firm had to scrap it. There is perhaps an argument for intervention to facilitate a change of convention to the benefit of all.

²¹ This is the same problem that a central bank faces in lender of last resort operations.

²² The same behaviour has been observed at race tracks. Punters, who lose on average if bookmakers are competent, tend to shift towards long shots later in the day as they try to recoup losses (McGlothlin, 1956). Pushkin (1836) implicitly provides a similar psychological theory of gambling for resurrection.

²³ This could be compared to basketball shooters' belief in 'hot streaks', which appears to be without empirical foundation (Gilovich et al., 1985).

²⁴ Boot et al. (2000), however, argue that other sources of reputation (such as the use of credit ratings) have increased to compensate.

²⁵ Cruickshank (2000) recommended that the FSA be given a statutory competition objective. His recommendation was not followed. Instead FSA rules may be reviewed by the Director-General of Fair Trading and the Competition Commission. Cruickshank's recommendation was incomplete at best, and in my opinion wrong. A system in which a small number of banks generate supranormal profits and have a high franchise value clearly has competitive inefficiencies, but the effects in the context of market failures are ambiguous. A less competitive system may be more stable and require less regulation. Competition reduces banks' profits and increases their vulnerability to shocks, a lesson that was learnt by legislators in the 1930s. Hellmann et al. (1995) argue that public policy aimed at the creation of economic rents can promote financial deepening. Secondly, increasing the profitability of lending may reduce some of the agency costs associated with lending, for example increasing the average quality of the borrower, and improving screening incentives. Small numbers of banks may also have more reason to organise 'lifeboats' for failing banks, and stronger incentive to monitor interbank lending as a result. (On the other hand, the banks may be harder to supervise, since high-value banks have more reason to invest in the acquisition of political influence.) Competition, like financial stability, is a means to welfare, not an end in itself. See Cetorelli (2001) for a discussion of the benefits and costs of competition, and some cross-country estimates. Cetorelli also argues and presents some evidence that the provision of finance to small businesses may be improved in a concentrated banking system, so that UK's structure may happen to be efficient.

²⁶ I cannot find in that Act any definition of objectives. The protection of depositors is the implicit objective (§11(1)(e) for example, and Schedule 3 para 4(2)(b)); I can see no reference to protection of the financial system.

²⁷ There seems to be an inconsistency in the US worries about forbearance on the one hand, and strong belief in supervisory discretion on the other. However, it could simply reflect the effects of time. FDICIA – and the Basel Accord – were both negotiated at a time when the cost of forbearance was uppermost in the mind. Subsequent experience of rules may have caused the heart to grow fonder of discretion. Alternatively, the supervisors may simply value discretion, not regarding FDICIA as a material constraint on action. In reality, the PCA component of FDICIA, as with all apparently precommitted regimes, contains a significant element of discretion.

²⁸ Similarly, Japanese regulators will be under enormous and perhaps intolerable pressure from banks and government to allow their banks to save on precious capital regardless of their risk management standards; and German regulators have more or less been instructed by Parliament to grant model recognition to the smallest banks.

²⁹ This comes from a cognitive psychology article for which I have lost the reference.

³⁰ Of course, I could simply be suffering from motivated overconfidence.

³¹ For example, I genuinely do not know whether I was an effective supervisor; I only know how my work was assessed.

³² Indeed, much of the criticism of the World Bank's investment record hinges on whether the improvement in programme effectiveness recorded over the last 10 years is actually real. The Bank has an Operations Evaluation Department with an independent reporting line to the executive board, but there are differences of view over the extent to which a 'revolving door' between the OED and the Bank might compromise the independence of its assessments. See 'Audit the World Bank' by Adam Lerrick, *Financial Times* 6 March 2002, Martin Wolf 'Making aid a better investment' (ibid., 13 March) and the subsequent correspondence.

³³ According to FSA (2001), 17% of adults in the UK do not have a bank account. The 'socially excluded' (mostly men with no fixed address) are the only one of six non-banking types identified to suffer from rationing of the supply of banking services. The FSA produced a consumer booklet and worked with banks to introduce 'introductory' bank accounts.

³⁴ On the other hand, to focus only on a partially-defined set of incentives and to ignore supervisors' norms and ethical values, is to miss much of the picture. In my experience, policy formulation is devoted to the public good, and public officials are motivated by this aim; officials usually fail to act in the public interest not because of outright venality but because institutional incentives make it difficult for them to do so and because they make mistakes. This distinction matters because it affects the optimal degree of delegation and trust. Despite the title of the article, Kane (1997) actually neglects the ethics of regulation.

³⁵ As mentioned above, the UK FSA intends to get around this by publishing aggregate numbers relating to the effectiveness of risk mitigation programmes. This is a good idea, but it remains to be seen whether Parliament will take any notice of it the next time a bank fails.

³⁶ The Basel Core Principles Methodology (1999), Principle 1 (5) suggest as an essential criterion that "the law provides legal protection to the supervisory agency and its staff against lawsuits for actions taken while discharging their duties in good faith" and "the supervisory agency and its staff are adequately protected against the costs of defending their actions while discharging their duties."

³⁷ Kane (1997) argues that regulation fails by being excessively weak, and that a bank supervisor should pay a large financial penalty if her bank fails. This is not a solution to forbearance. The rational response would be to refuse all new banking licences and set capital requirements equal to assets. Recruitment, too, might be adversely affected unless average remuneration were significantly increased to compensate for the increased risk, an option open to very few regulators in practice.

³⁸ The possibility that supervisors may be prone to both errors means that Prendergast's (2001) asymmetric-penalty model is not quite appropriate here. The recommendation of recruiting 'biased' supervisors will not work, since the direction of the overall bias is ambiguous. Perhaps a more appropriate recruitment bias might be for a tendency towards bellicosity; but see next footnote.

³⁹ Supervisors' bureaucratic career aims may also cause distortions. They may wish to be promoted, in which case they need to be able to signal those things that trigger promotion. Tough supervision may or may not be one of the signals; ability to behave in a way aligned with cultural norms is more usually the way to promotion in organisations, and cultural norms may or may not be conducive to toughness. For example, tough supervision leads to arguments, which make bosses' lives more difficult.

⁴⁰ It has been pointed out to me that this is a typically technocratic, welfarist approach. Political accountability may indeed compromise the narrow effectiveness of the rules but enhance their legitimacy.

⁴¹ Admittedly, the requirement to produce a true and fair view is a UK, not a US requirement; it is an example of an overarching principle that may provide some comfort in addition to a set of detailed rules.

⁴² In 2000, Andersen received \$27m in revenue from Enron for non-audit services and \$25m for audit services, according to *The Economist* (2002).

⁴³ Such screening is likely to be highly imperfect, but self-selection effects seem to be strong. Most supervisors of my acquaintance believe in strong moral codes, in some but not all cases derived from religious beliefs.

⁴⁴ To take an example, credit-risky structured products are sometimes hedged at the beginning of the trade – should the whole structure go into the trading book? Traded loans and other instruments of doubtful liquidity (eg a 100%-underwritten credit loan note) also present problems.

⁴⁵ For one version of the proposal, see US SFRC (2000). For cautiously negative assessments of the idea of linking sub debt yields to automatic regulatory action, see Estrella (2000) and FSA (2000b, Annex B). For a wholly critical polemic, see Ely (2000).

⁴⁶ In European law, a Regulation is a legal instrument. I am using the word in a general sense.

⁴⁷ This right exists in common law, although the City of London police believe that, since there are no longer any livestock markets in the City, it has effectively lapsed.

⁴⁸ Commission Directive of 15 April 1987.

⁴⁹ Directive 2000/36/EC, to be implemented in member states by 3 August 2003.

⁵⁰ Estrella calls these rules ‘mechanical formulas’; he uses ‘rules’ in a very broad sense to include conventions.

⁵¹ By standards, the Basel Committee means quantitative minimum requirements, as in 8% of risk-weighted assets, or qualitative requirements, as in ‘fit and proper’. The 1996 Market Risk Amendment is an example. Clearly, such standards are rules; they are supposed to bind. Conversely, Dworkin (1978) (sometimes) uses ‘rules’ and ‘principles’ as incompatible hyponyms of ‘standards’.

⁵² In banking regulation, these standards may be defined hypothetically, as well as after the event. For example, in securitisations, banks often engage in iterated discussions of potential structures with the bank supervisor, in order to satisfy the standards for risk transfer while retaining as much economic risk as possible. Nevertheless, Kaplow’s definition is useful.

⁵³ For example, CAD2 (Directive 98/31/EC) Annex VIII, which permitted the use of value at risk models, sets certain qualitative requirements for model recognition, such as: “the institution has sufficient members of staff skilled in the use of sophisticated models in the trading, risk-control, audit and back-office areas.”

⁵⁴ As Black (1994) relates, SIB discovered the value of high-level principles after erring too far on the side of detail at the government’s insistence.

⁵⁵ The FSA also imposes 11 overarching Principles for Businesses on its regulated firms. However, breaching such a ‘Principle’ renders a firm liable to disciplinary sanctions.

⁵⁶ “In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law.” I am grateful to Kern Alexander for this point.

⁵⁷ The other reason is that referees have weak discretion in Dworkin’s other sense, that there is no appeal mechanism: referees define the truth. To take the example most important to the author, Nottingham Forest lost the second leg of the UEFA Cup semi-final in 1984, away at Anderlecht, when the referee gave a dubious penalty to Anderlecht and then disallowed an apparently legitimate Forest goal without explanation. It was later discovered that the referee had been paid BF1m on the orders of Constanz Vanden Stock, then chairman of Anderlecht.

⁵⁸ The dominance of mixed strategies (Dixit and Nalebuff, 1991, chapter 7) may seem obvious, but it apparently eluded Charles Hughes. He collected statistics that showed most goals are scored quickly after obtaining possession and many are scored at the far post. Treating football incorrectly as a game against nature, he inferred that a team should play the long ball from defence and direct the ball towards the Position of Maximum Opportunity (ie the far post). This error would not have mattered much but for the

fact that Hughes wrote the English standard text *The Football Association Coaching Book of Soccer Tactics and Skills* and was the FA's Technical Director.

⁵⁹ See <http://www.federalreserve.gov/boarddocs/supmanual/> for those used by the Federal Reserve, for example.

⁶⁰ The categorising task of the person interpreting capital adequacy policy is very similar, of course, to that of the interpreter of accounting rules, eg FASB or the IASB. Accounting bodies issue periodic updates that adjudicate difficult cases and function to add to or clarify the rules. The librarian faces much the same problem, and the Library of Congress, too, issues what Nicholson Baker calls 'hermeneutical dispatches'.

⁶¹ It could be argued that the statute only allows a 'policy' (ie general welfare) approach to be taken, rather than one that also considers issues of principle (ie individual or group rights). Indeed, the British Government seems to regard problems of social choice as lying outside the proper scope of its agencies. In its response (2002) to the Haskins Report on utility regulation, it states "it should not be for economic regulators to try to decide what may be socially or environmentally desirable. Instead, it is more properly the role of Government to set out the policy goals in the social and environmental sphere. The Government announced that it would give regulators statutory guidance on social and environmental policy so that it would be clear what the policy goals were in those areas." Some parts of FSMA, too, appear to introduce a bias towards a 'policy' approach. FSA is required to demonstrate how draft rules relate to the statutory objectives, but not to anything else. Section 155 (2) (a) requires that a 'cost-benefit analysis' (strictly, an estimate of the costs and an analysis of the benefits) accompany any draft rules published and any changes made between drafting and rulemaking. CBA can build in distributional objectives, but the FSA would find such an approach hard to justify. Given the Government's response, the absence of social and environmental factors in FSA's objectives implies that economic regulation is intended to be the focus of FSA's analysis, and that a CBA with unequal weights would not be allowed, with one possible exception: consumer protection is an objective of regulation, and CBA merely a principle; so consumer surplus could be more highly weighted than producer surplus within the terms of the Act. If the CBA requirement is binding, then it seems to require a strongly (and crudely) utilitarian approach. There are at least two problems with such an idea, one theoretical and one practical. The theoretical argument is that "distinguishing better from worse economic policies and outcomes is a central purpose of normative economics, and one that inescapably relies on moral judgements. Moral evaluations of economic arrangements are built into welfare economics and into the terms of policy debate." (Hausman and McPherson, 1993). An unweighted CBA is not morally neutral; indeed it can recommend courses of action repugnant to all. In practice, as Goodhart et al. (1998) point out, CBA is impossible in the field of prudential regulation. CBA will then be used as an instrument of technocratic manipulation, as a way for the technocrat to justify decisions that have been arrived at by other methods (Campen, 1986); it is itself a costly process and one that may not always achieve much benefit. This manipulation may, of course, be harmful, and this outcome is indeed likely if regulators are captured by producer interests, but not necessarily: if the objectives are incompletely specified and regulators take into account moral principles, the recommended policy could according to those moral principles be superior to that required by a more disciplined CBA.

⁶² Estrella (1998) does not argue for generality alone. He suggests that formulaic rules can still be useful in some circumstances, but that they should not be written into statute.

⁶³ It was no accident, for example, that in the implementation of CAD2, which required regulators to increase a minimum multiplication factor according to the extent to which the qualitative standards deviated from the ideal, the German BAK chose to adopt a linear weighting scheme that mapped assessments of each standard on to a multiplication factor, while the UK FSA chose to make the mapping in a subjective way.

⁶⁴ For example, in Islam the four canons of jurisprudence (Quran, sunna, ijma? and qiyas) represent a well-established hierarchy of sources and ways of deciding what is right in each particular case. Of course, even constitutional law can be changed, while the Quran and sunna cannot.

⁶⁵ In the UK, Financial Services and Markets Act (FSMA) 2000 §138 grants rulemaking powers; the FSA's rule book uses rules, guidance and evidential provisions. The Federal Reserve Board implements the relevant US laws in part through its regulations, codified in title 12, chapter II, of the Code of Federal Regulations, and also through policy statements, interpretations and published staff commentaries and opinions.

⁶⁶ My recollection is that Germany transposed the Capital Adequacy Directive in October 1998, nearly three years after the UK and just after the Bank of England had implemented CAD2.

⁶⁷ Article 2 of the Constitution of the French Fifth Republic (1958) and Article 3 of the Constitution of the Italian Republic (1947) say that all citizens are equal before the law. Austria's Constitution (Bundes-Verfassungsgesetz) Article 7 gives the same right to 'federal nationals' (Bundesbürger). Article 3 of the Basic Law of the Federal Republic of Germany (Grundgesetz, 1949), more generously replaces 'citizens' with 'people' (Menschen).

⁶⁸ Cited in Zajac (1996).

⁶⁹ It is perhaps interesting to note that the fairness of the impact on different banks is a common topic of debate; redistribution between consumers and producers is not usually discussed in fairness terms.

⁷⁰ In exceptional macroeconomic circumstances the Finance Minister may raise this minimum to 8.5% for all banks.

⁷¹ Dworkin (1978, 37) says that the doctrine of precedent is a set of principles "reflecting the equities and efficiencies of consistency".

⁷² See BCBS (2001a) pp52-86 for the concise version of the requirements relating to IRB; the requirements are a mix between the qualitative (eg quality of staff) and the quantitative (eg minimum length of data required for estimation of default probabilities).

⁷³ The minimum requirements, both quantitative and qualitative, cover the following:

- a) meaningful differentiation of credit risk
- b) completeness and integrity of rating assignment
- c) oversight of the rating system and processes
- d) criteria of rating system
- e) estimation of PD
- f) data collection and IT systems
- g) use of internal ratings
- h) internal validation; and
- i) disclosure.

⁷⁴ Similarly, some central banks claim to provide liquidity assistance only to the systemic. So long as a central bank follows some defensible procedure for deciding what poses a 'systemic' risk, the actual decision is effectively unchallengeable. What appears to be a rule does not in fact constrain behaviour very much. The IMF is supposed to take into account whether an exchange rate policy is 'sustainable', but free to decide in each case (Tarullo, 2001).

⁷⁵ In fact, worse, since investment firms are subject to an 'expenditure-based' capital requirement not imposed on credit institutions.

⁷⁶ See European Commission Services (2001, 5) for an example of this kind of logic.

⁷⁷ It may be interesting to note that the 'same risk, same capital requirement' was strongly promoted by German regulators during the CAD negotiations (and subsequently), but was strongly resisted by German

regulators during discussions about possible capital adequacy rules harmonisation at the Basel Committee in the mid-1980s (Kapstein, 1992).

⁷⁸ I cannot remember exactly who tabled these amendments and have not been able to find them; my memory associates them with Alexander Radwan MEP among others, but this may be incorrect.

⁷⁹ In fact, technically and by historical anomaly, the governors of the G-10 central banks choose the membership.

⁸⁰ For example, in May 2001 the German Bundestag laid down five conditions that Basel 2 must satisfy.

⁸¹ A zero risk weight for the German Churches was the example that came to mind, although I cannot find it in the documents.

⁸² This is, of course, difficult to prove. It is necessary to deconstruct speeches carefully crafted to conceal meaning. And of course, the idea that the EU countries are a homogenous bloc is a rough approximation at best.

⁸³ The same issues are present when there is regulatory competition within the same country. Cartelisation within a country should be easier, although even the three major US bank regulators only harmonised their capital adequacy rules in 1985.

⁸⁴ Oatley and Nabors (1998) argue that the US and UK used financial market power to impose higher standards on Japan in 1988 than Japan wanted, so that the gains were not joint. Certainly, the Americans and British viewed their bilateral 1987 agreement, with its implicit market access threat, as a means to persuade the French, West Germans and Japanese to the table. Lütz (2000) argues that it is a coordination game in which the several Nash equilibria have distributional implications; the US's size makes its preferred equilibrium the focal point. Simmons (2001) assumes that the US and UK, having the largest financial centres, have the most power, and argues that a dominant player can provide an 'anchor' in the race to the bottom by forcing others to adopt its preferred prudential standards. In practice, it is not obvious to me that the US, which is the only possible candidate for hegemon, does provide the anchor that stops the others from racing to the bottom, perhaps because US is indeed powerful but not dominant enough to enforce its preferred standards. The real threat that can be made by a large financial centre is entry restrictions; this threat was probably what brought Japan to agree to the 1988 Accord and what persuaded some countries outside the Basel Committee and the European Community (such as Australia) to adopt the Accord. However, the Basel and EU mutual recognition regimes allow banks from jurisdictions with adequate standards to branch in without being subject to US or UK capital adequacy requirements. This eliminates the market access threat, if Basel member states abide by it (the Concordat is not a law, after all, and the provisions of the Gramm-Leach-Bliley Act effectively imposed entry requirements that were higher than those of the Basel Accord.) Furthermore, the analysis ignores the important and complex interactions between domestic politics and international bargaining strategies and outcomes, for which see Putnam (1988). It also ignores the bargaining strengths and weaknesses derived from personal characteristics. So the question of who is most powerful, and why, deserves further research.

⁸⁵ *The Economist* (2001) appears to argue that there is no race, or even that there is a race to the top. Herring and Litan (1995, 81) argue that the race to the bottom by state thrift regulators in the 1980s was a special case because deposit insurance did not vary with laxity of regime so that consumers were indifferent between risky and safe banks, and that in general there should be no race. "In an international context depositors would be obliged to consider international differences in the quality of insurance and prudential supervision. The Cayman Islands, for example could not credibly compete." Yet it seems that offshore jurisdictions can compete only too well. Shopping around by creditors does not seem to be sufficient to restrain regulators in their urge to compete. In any case, nine of the thirteen Basel countries operate a harmonised deposit scheme. The 1994 Deposit Guarantee Directive (1994/19/EC) introduced a scheme containing caps (up to €20,000 of deposits) and coinsurance (maximum €15,000 to be paid), and 24 countries have implemented its provisions. By way of comparison, US deposits are insured up to \$100,000.

⁸⁶ With infinite or uncertain horizon.

⁸⁷ ‘Fair’ cooperative outcomes are often observed experimentally even in the absence of any enforcement mechanism. If Basel Committee members had a common preference for behaving fairly, they might self-enforce. In practice there is no common idea of what is the fair outcome. Perceptions of what is the fair outcome tend to be biased by self interest, suggest Babcock et al. (1995).

⁸⁸ Applications for model recognition are a good example.

⁸⁹ This is surprising, since a member of the Basel Committee sat on the Sheng Group.

⁹⁰ The participants imposing the discipline (and the most volatile source and sink of funds) are the bankers regulated by the Basel Committee members. The need to have regard to international standards could be made a minimum standard for regulatory use of an IRB system, but this would be very difficult to enforce. The one standard that is in the ‘rules document’ is that default probability (rating) assessments should take into account the quality of the accounting and conformity with the standards (BCBS, 2001a, para 265).

⁹¹ This is effectively the same problem as setting individual capital requirements. My analysis suggests that individual capital ratios should only be used by supervisory agencies with skilled and well-incentivised supervisors, because otherwise they may be abused (eg taken over by large banks).

⁹² The European Commission Services use the term liberally. The Basel Committee does not use the term in its list of objectives, but does in the supporting text, and discussions between regulators and banks almost always use the term. In any case, the term used in the Basel objectives is ‘competitive equality’, which is similarly loaded.

⁹³ This assessment is difficult, and the conclusion especially unreliable. Because banks’ portfolio allocations are endogenous, small differences in treatment can have large effects, as risks build up in countries with the lightest treatment. In any case, provisioning practices are crucial in the determination of capital, and these are not (yet) co-ordinated.

⁹⁴ The Committee’s position is as follows. “The Committee fully recognises the benefits of competition in the financial sector and remains committed to the concept of a level playing field for banks operating in international markets. It is aware, however, that differences in national accounting, legal, tax and banking structures will inevitable create differences between national markets and that the use of banking supervisory rules cannot eliminate all these differences. As such, the Committee believes that the second and third pillars will serve as a complement to the minimum capital requirements set forth in the first pillar” (BCBS, 1999a, 10). I do not know what this means.

⁹⁵ However, the empirical work of Sundararajan et al. (2001), based on core principles compliance assessments of 35 countries found no relationship between core principles compliance and indicators of credit risk (credit spreads) and banking soundness (non-performing loans to total loans). The authors conclude that Core Principles non-compliance “does not seem to have any direct effect on credit risk and soundness in the near term; however ...noncompliance could influence credit risk and soundness indirectly through its interaction with other macroeconomic and banking factors”.

⁹⁶ Published on the World Bank Global Insolvency Law Database www.worldbank.org/gild in April 2001.

⁹⁷ See Directive 2000/12/EC, recital 19: “The rules governing branches of credit institutions having their head office outside the Community should be analogous in all Member States. It is important at the present time to provide that such rules may not be more favourable than those for branches from another Member State.” See also article 24 : “Member States shall not apply to branches of credit institutions having their head office outside the Community, when commencing or carrying on their business, provisions which result in more favourable treatment than that accorded to branches of credit institutions having their head office in the Community.” See also CAD (Directive 1993/6/EEC) article 7(11), which requires that, in order to be granted the more favourable consolidation treatment, subsidiaries in third countries must comply “on a solo basis, with capital adequacy rules equivalent to those laid down in this Directive.” Article 14 of the proposed Financial Conglomerates Directive (see COM(2001) 213) also requires a judgement of equivalence.

⁹⁸ There are at least two reasons why publication might be harmful. First, the markets might overreact to public criticism from the two IFIs, because cognitive biases such as Kahneman and Tversky's availability heuristic cause them to overweight new information, or because consciousness of the endogenous nature of prices leads rational bankers to overreact to public information, as in Morris and Shin (2001). The assessors would have this in mind when preparing the assessments. Commenting on the Basel 2 disclosure requirements in general, IMF staff (2001) express concern that "market discipline could react precipitously, in ways that run contrary to supervisory concerns for market stability and confidence in financial institutions." The dilemma is rather similar to the publication of regulators' risk assessments of their banks, an idea that is very unpopular with most regulators. Effective supervisors do not need publicity, since they can act on their private risk assessments; the IFIs have no such power over countries that do not need to borrow. Secondly, political pressure would distort the risk assessments.

⁹⁹ By 'tax' I do not mean a pecuniary transfer, but a more general intervention.

¹⁰⁰ This applies even under risk-neutrality. Governments may prefer to reduce the probability of failure still further because of uncertainty about the impact of failure.

¹⁰¹ Strictly speaking, whether all liabilities junior to deposits are protected depends on the details of the intervention expected. The credibility of commitments (by governments such as that of New Zealand) not to bail out banks is widely questioned. Less ambitious commitments may have more credibility and better disciplining effect. A commitment that shareholders and incumbent managers will not be guaranteed in the events of failure should be easier to fulfil; the incentive effects on shareholders and especially on managers should be highly beneficial. Andrew Crockett, among others, has argued in favour of such a commitment.

¹⁰² Demsetz et al. (1996) report that US banks' diversification approximately offsets the tendency of large banks to pursue riskier activities, so that there is "little relationship between BHC size and all-in risk" (as measured by stock return dispersion). This is weak evidence against a diversification effect, and hence against the idea that diversification cancels out impact.

¹⁰³ If this technology were available then it would also be possible to introduce a 'cap-and-trade' systemic risk permit system. This would require a measure of systemic risk; an aggregate limit; and a system – such as grandfathering - for allocating initial property rights. However, the cap would need to grow in line with the economy, and this might be difficult to design; a tax automatically allows growth.

¹⁰⁴ Greenspan (2002) argues that the improvements in risk management resulting from the Basel 2 IRB approach will reduce the wide "attitudinal swings". However, since he also argues that it is commercially sensible for banks to adopt short horizons in their decision-making, and it is not clear how the two can be reconciled. 'Better' risk management will reduce the amplitude of cycles only if it lengthens the decision horizon, and the IRB standards as currently drafted do not require that.

¹⁰⁵ As another side effect, it reduces the differences in capital requirements between countries with lower-quality average bank loan portfolios, such as Japan and the USA, and those with higher-quality portfolios, as in Europe. Whether this is consistent with competitive equality depends on the observer's time zone (Ward's theory of relativity).

¹⁰⁶ An exception would be the rescheduling of sovereign debt by a Zone A country.

¹⁰⁷ In this sub-section I shall use the word 'model' to include the IRB approach, because the IRB approach suffers from the same incentives problems. In Basel Committee terminology, the IRB approach is distinct from credit risk modelling because it does not take into account correlation effects (on non-retail portfolios, at least, and then only if the 'granularity' multiplier is scrapped), and because it is usually a much more qualitative process.

¹⁰⁸ A model that generates fewer than 5 exceptions in a 250-day period is assumed to be correctly calibrated. A model that produces twice as many 'exceptions' as it should (ie is in reality calibrated to 98% confidence rather than 99%) will go unpunished 44% of the time if the 'exception' probabilities are independent (BCBS, 1996b, Table 1). In fact, by my calculations a bank secretly using a 98% model will expect to have to multiply its output by 9% more, on average than a bank using a 99% model (an expected

multiplier of 3.32 against 3.05). Assuming joint Normality, the capital requirements for a 98% model will be 6.81 (3.32 x 2.05) 10-day standard deviations, and the capital requirement for a correctly-calibrated model 7.11 (3.05 x 2.33) standard deviations. Even in the absence of supervisory forbearance, the bank expects to make a 4% capital saving by manipulating the model.

¹⁰⁹ For the same reasons, it is difficult to imagine what can be learnt during the first two years of the advanced approach, *during* which the Committee intends to review the 90% floor (BCBS 2001c, para. 49).

¹¹⁰ As of 1 May 2002, the Federal Agency for Financial Market Supervision (Bundesanstalt für Finanzmarktaufsicht), responsible for supervising the banking, securities and insurance markets.

¹¹¹ However, the rationale given for the multiplier (BCBS 1996c, pp3-4) was model risk, not externalities.

¹¹² There is a great deal to be said for diversity in banking, as in ecology. Loss of market discipline, the effect of which is in any case questionable for other reasons, could well be an acceptable price to pay to reduce the destabilising effects of herding induced by common use of similar models. See Morris and Shin (1999) and Persaud (2000). Nevertheless, the point here does not rely on this effect: it is that the Basel Committee is relying on regulators' imposition of high standards and on market discipline, and that neither will work.

¹¹³ Schelling (1960) suggests exchanging spies as a way of enforcing contracts where there is no enforcement mechanism and no trust.

¹¹⁴ The goals of the European directives are not very clear. The primary goal is set out in the recitals to the second banking coordination Directive (89/646/EC): "this Directive is to constitute the essential instrument for the achievement of the internal market". This goal is the *raison d'être* of the relevant Directorate General of the European Commission (DG Markt). The aim is to help achieve the Treaty goals of freedom of establishment and the freedom to provide services. These are proper goals, but they are not the prime objective of prudential regulation; banking Directives have introduced regulations not to achieve the Treaty freedoms but to protect people, individually and collectively, and the Treaty freedoms have influenced the shape of the agreement but have not actually generated it. In a related Directive, 94/19 on deposit insurance, the recitals contain all three aims: "the harmonious development of the activities of credit institutions throughout the Community should be promoted through the elimination of all restrictions on the right of establishment and the freedom to provide services, while increasing the stability of the banking system and protection for savers." The new consolidated Directive (2000/12/EC) also focuses on freedom of establishment, competitive equality and the protection of savers. The report by the European Commission (COM (2000) 74, page 5) on the implementation of the Own Funds Directive states that the objectives of the Directive are "to harmonise minimum prudential standards for financial institutions in the EU with the dual aim of safeguarding the safety and soundness of the financial system and to establish a level playing field for financial institutions competing in the single market."

The European Court of Justice can infer, however, what the specific objectives of a Directive were, and will take them into account in deciding cases (Judgement of the European Court of Justice of 13 May 1997, *Federal Republic of Germany v European Parliament and Council of the European Union*, in re Germany's transposition of the Deposit Guarantee Directive (1994/19/EC)). The court will also take into account other accepted principles such as subsidiarity and proportionality, and the general good. The European Court of Justice could allow the 'general good' of a member state to over-ride the single market objective, and the general good has been taken in previous cases to include consumer protection and preservation of the good reputation of the national financial sector (European Commission, 1997, 17).

¹¹⁵ In 2000, the Marylebone Cricket Club (the guardian of the 'laws' of cricket) did much the same thing. It is widely felt that the laws of cricket as interpreted by the umpires no longer, as a matter of practice, sufficiently constrain cricketers in their desire to cheat or intimidate (although a less pusillanimous interpretation of Law 42, which relates to unfair play, might have sufficed). The MCC introduced a preamble to the laws called 'The Spirit of Cricket', which is a set of high-level principles relating to the responsibilities of captains and players. At the same time Law 42 was amended to make clear that the umpire may intervene in cases not covered by the laws, and to widen the circumstances in which penalty

runs may be given away (eg for time wasting). (Incidentally, the MCC is based at Lord's cricket ground in London, which, although not a level playing field, is the ground on which cricketers around the world dream of playing.)

¹¹⁶ GTIAD is the Working Group on the Interpretation and Application of the Banking Directives. For a useful, pre-Lamfalussy, description of the complex network of European and global financial services committees, see European Commission DG Markt (2000). Giovanoli (2000) is also useful.

¹¹⁷ These estimates assume that the yield demanded changes by the minimum capital ratio (8%) times the change in risk-weighted assets caused by the downgrade, times a target return on capital (20%), rounded to one significant figure. They ignore quantity effects.

¹¹⁸ Loans of *original* maturity of three months or less, for reasons that are not clear.

¹¹⁹ The liquidity subsidy could be justified in two ways. First, and probably the original reason for the carve-out, a feeling that bank credit is special. IIF (2000a) argue: "Short term interbank credit plays a particularly important and stabilizing role in many emerging markets where more liquid forms of credit intermediation have not yet taken hold. Working Group members, particularly those in emerging markets, are concerned that the June 1999 proposals could stunt the development of interbank markets and accelerate disintermediation by pushing short-term lending activities outside the banking sector... Short term interbank lending serves an important role in assisting banks in their liability management, where appropriate macroeconomic policies are in place and where bank balance sheets are more traditional (ie less liquid)... The impact of reducing liquidity in short-term interbank markets would be felt by all banks." IIF (2000b) add: "It is true that some governments in the 1990s adopted explicit policies exploiting the short-term interbank credit rules, to the detriment of financial stability in their own country... Global regulatory policymakers should not seek to use bank capital adequacy regulation to provide a solution to [the] problem [of excessive short-term bank lending to emerging market countries in the 1990s]." This is a very weak argument. Interbank lending may be important, but it is not clear why banks' liquidity management needs subsidy. If banks need to borrow and lend from each other, they can do so. In fact, the safety net already subsidises the creation of inside assets by allowing greater leverage than was (or would be) the case in a *laissez-faire* system. The IIF's second point about capital adequacy rules not being a solution to a potential cause of financial instability is simply wrong: capital adequacy rules are supposed to limit financial instability. A second possible argument, derived perhaps from the McKinnon/Shaw school of financial development (which however, emphasises the role of banks in lending to the real sector, not to each other), is that when liquidity falls, all actual and potential participants in financial markets suffer from increased transaction costs, profitable investment opportunities are missed and growth is lower. Liquidity has some public good properties, so the creation of liquidity in general should be subsidised. But in practice, while bank liquidity should not be repressed, credit and capital markets often suffer from excess liquidity. Banking crises are strongly associated with previous credit booms. Financial participants appear better off in the good times, but only because risk is being underpriced, and they are in fact more vulnerable than they can sustain in the long run. Liquidity should then be restricted rather than subsidised, and, particularly when there are well-developed capital markets, interbank liquidity should need no fixed subsidy.

¹²⁰ The definition of Tier 1 capital having been inconsistently interpreted, the Committee came to an agreement on the inclusion of 'innovative' Tier 1 capital instruments in October 1998. It issued a press release (27.10.98) rather than an official amendment.

¹²¹ Laid out in Article 251 of the EC Treaty.

¹²² Parliament approved the Lamfalussy proposals by a Resolution on 5 February 2002, after receiving assurances from the President of the European Commission that Parliament's powers would be equivalent to those of the Council of Ministers. The duration of the delegation of executive powers will be limited to four years from the entry into force of each directive, subject to an extension being proposed by the Commission and accepted by Parliament and Council, so the system may be somewhat biased against delegation.

¹²³ Comitology procedures are set out in Article 202 of the EC Treaty and the 1999 Decision (1999/468/EC) on comitology.

¹²⁴ A more radical route, should the Basel Accord become customary international law, would be to scrap the Own Funds, Solvency Ratio and Capital Adequacy Directives. Nine EU member states will be bound by Basel 2, and the other six would come under international pressure to adopt it in any case. The costs of changing the rules would then fall.

¹²⁵ See http://www1.oecd.org/fatf/40Reccs_en.htm.

¹²⁶ Technically, there is only one body with authority over the Basel Committee, and that is the G10 central bank governors. In recent years the G7 finance ministers have acquired the habit of issuing instructions to the Basel Committee, although their authority to do so is unclear (effectively, they assume that the G10 governors are a majority-owned subsidiary of the G7). The Financial Stability Forum, as a creation of the G7, might also grant itself the authority to issue instructions to the regulatory groups, not just to coordinate their work.

¹²⁷ The Basel Committee issued guidance in 1991 (BCBS, 1991) that recommended, but fell short of requiring, a 25% single-exposure limit. Most non-OECD supervisors apply large exposures rules of their own accord.

¹²⁸ Where banks own large equity stakes in a non-financial company, they also have incentives to overlend. However, these equity stakes can also bring benefits, such as better information. There is no consensus among regulators about the desirability or not of banks holding stakes in their borrowers.

¹²⁹ I think this is consistent with the law, although it hangs on the interpretation of ‘more favourable rules’ in 2BCD and ‘CAD-equivalence’ in CAD. The question comes down to whether Basel 1 requires more or less capital for a given portfolio. Unfortunately, this is impossible to answer. It is difficult to compare different, complex regimes. However, the new Basel and CAD3 regime will be calibrated so that the average bank would have the same capital requirements if it remained on the standardised approach; those using the IRB approach will have lower capital requirements, on average. This means that Basel 1 should be at least equivalent to Basel 2. However, for low-quality portfolios, which are more common in the developing world, the IRB approach ought to produce higher capital requirements than the standardised approach. It is ‘risk-sensitive’, after all.