

## **Roderick Carr: Banking on capital punishment**

Speech by Dr Roderick M Carr, Deputy Governor of the Reserve Bank of New Zealand, to the New Zealand Association of Economists, Christchurch, New Zealand, 27 June 2001.

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### **Introduction**

It gives me great pleasure to address the annual gathering of the best and the brightest economists in the country. Today I am not going to talk to you about the state of the economy or its immediate prospects; these are matters on which you are well informed. Indeed the transparency which surrounds the conduct of monetary policy in this country leaves little private information in the hands of the central bank. Further, with both a single decision-maker structure and long serving incumbent Governor, there is little new information to reveal about how the Bank goes about managing monetary policy. In fact as the Bank has served as training ground for many commentators and market economists, not only are we transparent but reassuringly predictable. I want to take my time today to stimulate your minds with a different set of issues.

At the heart of capitalism lies capital. Limited liability corporations have facilitated the accumulation and mobilisation of capital to rival church and state but as we will see the asymmetry of payoffs inherent in limited liability may induce excessive risk-taking. The provision of financial intermediation services, particularly banking, has given rise to an extensive theoretical and empirical literature in economics. By banking I mean the provision of two particular services, liquidity transformation and credit origination. The efficient provision of these services is essential to the growth and prosperity of market-based economies. Virtually all banking services are now provided through limited liability corporations and the question of how much capital should be held has become the subject of international debate.

Of all the interesting topics we could discuss, today I want to focus on the issue of bank regulation in general and, in particular, bank capital. I want to update you on recent international initiatives concerning bank regulation and outline both the case for capital regulation and the risks we take when regulators go too far. I want to highlight why it is essential to the efficient allocation of resources that providers of bank capital and even bank creditors must stand ready to take their punishment when things go wrong and the unexpected happens. I want to highlight the distinction between economic capital, rating capital and regulatory capital. I want to promote an antidote to the moral hazard created by asymmetric payoffs, implicit or explicit deposit insurance and regulatory capture. Finally I want to summarise recent policy initiatives we have taken to enhance the value of disclosure and underpin market discipline.

### **The New Zealand regime in brief**

Let me briefly remind you of New Zealand's approach to banking supervision. Our regime relies on self discipline, market discipline, and regulatory discipline. Any organisation wishing to call itself a bank while carrying on business in New Zealand must obtain a registration from the Reserve Bank. Our conditions of registration prescribe minimum levels of capital in line with international standards known as the Basel Accord. We also require mandatory levels of public disclosure. Directors are required to provide regular public attestations as to the soundness of the bank, the robustness of its systems and its exposure to risk. We monitor these disclosures and meet with all registered banks annually to discuss strategy and any emerging issues. We rely on external auditors to verify financial statements. By year-end, all registered banks will be required to have and publish a credit rating from an approved rating agency. Where we depart somewhat from traditional supervisory approaches is in our reluctance to validate what the directors of the bank are accountable for. We weigh more heavily than most the moral hazard arising from the regulator approving specific actions of the board and management of the bank. It is the role of the board and depositors to be satisfied as to the condition and conduct of the bank, not to rely on the supervisor's ability to constrain bank risk-taking. But let me be clear – New Zealand does not deny there is a case for bank regulation. But as they say – the devil's in the detail.

## **Global trends in bank regulation**

The draft proposals for the regulation of bank capital recently released by the Basel Committee on Banking Supervision, often referred to as Basel 2, run to nearly 800 pages. These must be one of the most extensive, most prescriptive, transnational regulatory proposals ever conceived. Yet in a recent extensive review of the academic literature Joao Santos of New York University's Solomon Center concluded:

"The justification for any regulation usually stems from a market failure such as externalities, market power or asymmetry of information between buyers and sellers. In the case of banking, there is still no consensus on whether banks need to be regulated and if so, how they should be regulated."

While this conclusion would not go unchallenged, not least by the tens of thousands of people employed as bank regulators around the world, it serves to highlight the wide range of views which exist about the issue of bank regulation and the extent to which current problems are the result of past poor regulation. Let me explain.

## **The 1988 Basel Accord and the new proposals**

In 1988, G10 countries reached a consensus on minimum capital standards for internationally active banks. The Accord can be summarised in a couple of pages. In essence, it states that for every \$100 of loans, a bank should have at least \$8 of capital, of which at least \$4 must be permanent equity. Because loans secured over residential property were seen to be less risky than other loans, they only had to have 50% as much capital. Loans to banks from OECD countries were seen to be less risky still, so they only had to have 20% as much capital, and loans to governments denominated in their local currency 0%. There were several other categories and treatment for off-balance-sheet exposures.

In my view, the 1988 Basel Accord arose mainly from a desire to promote competitive neutrality and to avoid arbitrage between differing national capital requirements for banks, as it did not seek to determine a socially optimal level of bank capital. In the 1980s, highly leveraged Japanese banks had been aggressive participants in the previously lucrative US municipal bond underwriting market. US banks responded to what they saw as unfair competition by pressing for an internationally agreed definition of capital standards for credit risk and a uniform methodology for the measurement of capital. While the 1988 agreement addressed the issue of minimum bank capital, it created a whole new industry in arbitraging between bank and non-bank capital requirements. Widespread securitisation of bank assets is perhaps the best example. Today the case is made that the 1988 Accord promotes regulatory arbitrage of this type, rewarding risk-shifting which may undermine the soundness of financial systems around the world. The solution, Basel 2, proposes to more closely align bank capital with the riskiness of the bank's assets and operations. Subject to signoff by bank regulators, banks may adopt their own models for determining how much capital to hold. In the absence of approval, a standardised, but more flexible than Basel 1, model is proposed. Market discipline is to be enlisted by requiring greater disclosure of risks facing a bank. While Basel 1 was a Capital Accord, Basel 2 is an accord having three pillars – capital requirements, regulatory validation and market discipline. The real question remains unanswered. Is the closer alignment of regulatory capital with economic capital good public policy? In validating a particular capital allocation model, do regulators let bank management, bank directors and bank creditors off the hook by, in essence, providing a warrant of fitness for the model and the bank? In order to evaluate the proposals, we should go back to first principles.

## **The case for regulating bank capital**

Is there a case for a country to specify minimum levels of capital which banks should hold? No such requirements exist for pharmaceutical companies, software vendors or telecommunications providers, where failure might impose externalities which would actually be life threatening. The fact that banks are risky ventures that go bust from time to time does not alone justify that minimum capital standards should be imposed.

The traditional case for regulating banks in order to reduce the probability that they might bust is that when depositors see a bank go bust they act in fear and ignorance as to the true condition of all other banks. They run to their own bank to be first in line to withdraw deposits and in so doing may force a perfectly sound bank to run out of liquid assets, sell sound assets at a discount and so become

insolvent. The combination of asymmetric information about the credits created (depositors can not know the state of the bank's borrowers), the sequential service constraint (all on demand deposits can be withdrawn in full), and the liquidity transformation services provided by banks (short term deposits finance long term loans) makes banks inherently vulnerable to a loss of confidence. Further, banks often borrow from and lend to each other both in the short-term money markets and through the payment system. Thus, the failure of one bank may indeed pose a threat to the solvency of another, even absent a run by depositors.

Banks will hold liquid assets and capital at levels high enough to meet some subjective assessment of the probability of runs and counterparty failures.

An alternative argument used to justify bank regulation is that in a system where central banks are called on to provide lender of last resort facilities to solvent but illiquid banks, in order to distinguish solvent from insolvent banks the central bank should undertake on-site examinations to establish the state of each institution. The prospect of system-wide contagion, in which society is denied the liquidity transformation and credit origination services of the banking industry, provides the soundest basis for regulating banks and socialising the costs of individual bank failures. The objective in socialising losses is to preserve services for future savers, borrowers and transactors, but the consequence is to protect current depositors from facing losses and to allow bank shareholders to earn excess returns if the bank holds less than the socially-optimum level of capital.

So the model of public policy for banking in many countries is something like this. Protect the depositors to stop the run. Stop the run to stop the contagion. Stop the contagion to ensure society continues to get banking services.

However, once the probability of bank runs has been reduced, banks will hold less liquid assets and less capital than would otherwise be the case. Indeed capital ratios have been declining relentlessly during the past 150 years, from 35% in the 1860s to 4% by the mid 1980s. The banks became more 'efficient' intermediaries but, to the extent the risk of failure has increased because of lack of depositor discipline on the banks and risk has been moved elsewhere (to taxpayers or deposit insurance funds), efficiency gains are more apparent than real. The predisposition of governments to bail-out the creditors of failed banks makes all the difference to both the sign and magnitude of the impact of regulation on the efficiency of liquidity transformation and credit origination in the economy.

### **Bailing out banks**

Perhaps the earliest recorded example of a government bail-out of bankers was the action by the Roman Emperor Tiberius Caesar who in 33 AD provided support to "reliable bankers" after fraud, defaults on foreign debt, liquidity draining government policies, sinking of uninsured cargoes, and a slave revolt precipitated a banking crisis. However, government safety nets were rare before the twentieth century.

In the era of free banking, market forces prevailed. Bank failures in the nineteenth century were relatively frequent but smaller in scale, and self-correcting in comparison to the experience in the twentieth century.

Banks today are playing a larger role in the economy than a century ago. Bank assets in New Zealand represent 180% of GDP. Payments made every day via the banking system amount to 35% of GDP. Virtually every adult member of society has a bank account, a credit card, and a debit card to facilitate non-cash payments. Many households rely on credit services to smooth consumption. Banks also provide working capital to small and medium size enterprises and facilitate payments both domestically and internationally. Arguably, the externalities associated with the failure of a single bank have increased in the last quarter century.

In the last quarter of the 20th century around the world there have been over 100 separate incidents of banking systems facing a crisis. In some cases, losses have exceeded 40% of annual GDP (Thailand) and losses of 10-20% of GDP have been common. It has been very rare for bank creditors to bear losses and in some cases even shareholders have been saved with public money. So what is going on?

Has the market failed or simply not been allowed to operate? The international consensus, not without dissenters, is that markets have failed or could be expected to fail, that oversight by regulators and prescribed minimum levels of capital are essential if banking systems are to be sound. Some countries have concluded that, because depositors rightly perceive that banks will still fail and therefore

depositors might run from solvent banks, deposit insurance is necessary to prevent runs. However, given the focus of deposit insurance on small deposits, and the extent of wholesale (uninsured) deposits in many banks today, deposit insurance is now often justified on the grounds it makes it politically acceptable to fail banks which should be failed and to limit the extent of taxpayer liability to insured deposits only.

The contemporary case for bank regulation runs something like this. Once the state is exposed to the underwriting risk and moral hazard of a deposit insurance scheme (implicit or explicit), it must monitor the banks to reduce the probability of failure. With an implicit guarantee or explicit deposit insurance scheme in place and the regulator deeply implicated with any bank failure, markets assess the probability of loss given default to be lower than otherwise, making them more willing to take risks with banks. This reduced risk aversion translates into holdings of lower levels of bank capital than would otherwise be required to underpin a portfolio of risky loans. In this, our current world, the privately optimal level of capital in banks could well diverge from the socially optimal level. I say "could" because we cannot rule out the possibility that at some very low probability of failure it may be efficient for society to underwrite banks rather than have them each carry the higher capital and liquidity levels necessary to withstand a once in a 500 year incident of general loss of confidence.

While some regulators agree there is a role for market discipline, many believe the market may not know what information to ask for, or banks may be reluctant to supply it. Consequently even advocates of market discipline agree there is a role for the regulator in prescribing what information should be provided. Proponents of market discipline believe it is then more efficient for bank creditors, through their agents, to monitor the bank rather than to rely on the judgement of a bureaucrat.

### **Determining the optimal level of bank capital**

Let us set aside the issues facing the solvent but illiquid bank by assuming a central bank has the capacity to act as lender of last resort. This presumes the central bank will be able to distinguish an illiquid but solvent bank from an illiquid and insolvent one. Let us focus on:

- how banks might determine the privately optimal amount of capital to hold;
- some factors which might cause the socially optimal amount of bank capital to diverge from the private optimum; and
- strategies to cause convergence between the socially and the privately optimal level of capital.

Because bank management might have misjudged the quality of its borrowers, because economic circumstances may cause once sound borrowers to fail and because depositors might withdraw funds earlier than expected, necessitating asset liquidations at discount rates above expected yield to maturity, bank management (wishing to preserve their jobs) and bank shareholders (wishing to preserve the franchise value of their business), will find it optimal to hold some capital. That is, to retain within the bank assets with an expected net present value in excess of the net present value of liabilities. But by how much?

If too little capital is held, the probability of failure is too high; if too much capital is held, the rate of return on equity is less than it might be. Surely this is an equilibrating mechanism where depositors' interests are protected by shareholder and management incentives to preserve the bank? Those who advocate a return to free banking would argue so. And did not Modigliani and Miller show nearly 50 years ago that debt/equity ratios do not influence the value of the firm? Well at least in frictionless markets with complete information and no taxes.

Let us set aside the traditional argument in favour of bank regulation – that banks are opaque, depositors need agents to monitor the bank on their behalf, and regulators can do this cost effectively. Let us set aside the strongest argument for regulation – the prospect of contagion. Let us assume complete markets and symmetric information and that depositors, shareholders and bank management seek to maximise the expected value of their interests. In this world, let us assume there is an unnatural person with full contractual capacity and limited liability. That is, payoffs are asymmetric. This unnatural person is a bank and I contend it will seek to hold less than the socially optimal level of capital.

Depositors earn high rates of interest, shareholders earn high dividends and management takes high salaries in the good times when the net present value of claims owned by the bank exceeds the net

present value of the obligations of the bank. In the bad times, depositors do not expect to face losses, shareholders liability is limited to the capital invested and management can withdraw and retire on prior period earnings or exit the industry.

Of course, this is a highly simplified model. To ensure its investment in people, processes and proprietary information is protected and because of the costs of bank failure in terms of reputation and potential litigation, owners and managers will choose to hold some capital.

The ability of the shareholders to put the bank to the bank's creditors arises from limited liability. The ability of the creditors to put the bank to the government (taxpayers) arises if the externalities associated with failing the bank are expected to exceed the cost of recapitalising the bank. This is most likely if the bank is assessed to be systemically or politically important. Each of the major banks operating in New Zealand has a significant share of system assets and hundreds of thousands of personal customers. They would seem to meet any reasonable threshold of systemic or political importance. While failing a bank might mean liquidation, it is almost certain to involve loss of credit origination capacity and disruption to the payment system.

"Too big to fail" (not failing a bank because of its size) need not mean all bank creditors should escape without loss. I would be the first to concede that our large banks are too big to liquidate or to indefinitely suspend withdrawals, but it would be foolish for bank creditors, including depositors, to assume that they will necessarily be made whole. Of course, bank shareholders would have lost all their investment before creditors suffer any loss.

Yes, this is another one of those occasions when the Reserve Bank takes the opportunity to state on the public record that neither the Bank, nor the government, guarantees any of the deposits of any registered bank.

Nevertheless, limited liability, systemic impact, and political voice underpin expectations of asymmetric payoffs for shareholders and bank creditors, and together these suggest that the privately optimal level of bank capital to cover expected losses might lie below the socially optimal level of capital required to meet both expected and unexpected losses. Let us call the former "economic capital" and the latter "regulatory capital".

Economic capital is optimal for shareholders; regulatory capital is optimal for taxpayers. There is also a level of capital necessary to sustain a given credit rating from an independent rating agent. Let us call "optimal rating capital" that level of capital optimal for depositors, given the premium over the risk-free rate paid by the bank to attract deposits allowing for the value of the option debt holders presume they have to put their deposits to the government.

Bank management has an interesting role. On the one hand, they want the shareholders to assess their expected rate of return to be high so the bank can access additional capital at the lowest marginal cost. On the other hand, bank management, on behalf of shareholders, want to convince the rating agency that their risks are well controlled so that they may be able to access deposits at the lowest possible cost for a given level of capital. Bank management face an incentive to convince regulators that the level of capital consistent with that demanded by depositors to protect them (rating capital) is also the socially optimal level of capital. Enter the so-called hybrid or innovative capital instruments that the market prices as debt and regulators often count as capital. This device seeks to provide regulatory capital at levels above economic capital. What makes capital "capital" is something we will come to shortly.

Let us return to consider the gap which, if it exists, should be of interest. That is, the gap between optimal economic (private) and optimal regulatory (social) capital.

The draft Basel 2 Accord is based on the assumption that under the 1988 Accord there was such a gap and that it was material. The implication in the draft Pillar one of the Basel 2 Accord concerning bank capital is that the total amount of regulatory capital should remain unchanged and that economic capital was being eroded and should be augmented. More closely tying capital to the probability of default on loans and the expected loss given default, together with an explicit charge for operational risk and the retention of a charge for market risk on the trading book, are the essential elements of Pillar one of Basel 2, which seeks to better align economic and regulatory capital. The alignment of regulatory capital is seen as good and the complexity of the proposed calculation of regulatory capital is in part justified as a way of making regulatory capital mimic economic capital, which is presumed to be the level of capital the market would demand.

## **Optimal economic capital may fall short of optimal social capital**

Asymmetric payoffs to shareholders and depositors mean the privately optimal level of capital lies below the socially optimal level of capital given the full distribution of returns to all stakeholders from the portfolio of risky loans originated by the bank's management but underwritten by shareholders, depositors and ultimately taxpayers in the case of systemically significant banks. In my view, alignment of economic and regulatory capital leads to an inherently undercapitalised privately owned banking system. In the absence of market discipline, it would be a mistake for the regulator to go along with whatever capital banks determine to be privately optimal. But recall it may still be efficient to socially insure, rather than capitalise the banks to absorb the most extreme unexpected losses. However, most safety nets have been slung to underwrite much more common events yet fail to ensure the preservation of the credit origination, liquidity transformation, and payment service capability of the institution. The analysis is made more complicated if the shareholders, depositors and taxpayers come from different nation states. Any idea of a utility maximising objective function to determine socially optimal bank capital needs to recognise the segmentation which occurs when the three sets of stakeholders cannot be presumed to be in a continuing relationship after a bank failure.

But that is not the full extent of the gap. Economic capital is calculated on the basis of expected losses. To the extent minimum capital requirements are set consistent with economic capital, unexpected losses will not be borne by bank shareholders. Unexpected losses must be borne by bank creditors, a deposit insurance fund, an ex post levy on surviving banks or socialised via taxpayer support arising from implicit deposit insurance. Losses which are unexpected to an individual bank are not necessarily unexpected to a banking system. The question is to what extent should banks' shareholders put up capital to underpin not only each institution but also the banking system? Does not deposit insurance seek to do just that?

## **Deposit insurance, moral hazard and undercapitalised banks**

The arguments against deposit insurance (whether explicit or implicit) are well rehearsed. Depositors and banks take more risk (incur moral hazard). Banks make more risky loans, which crowd out safe loans. Small scale and inefficient banks are protected. Regulatory capture and regulatory forbearance increase the loss given default. Credible deposit insurance may reduce the probability of bank runs as a cause of bank failure and increase the political acceptability of failing insolvent banks, but it does so at the risk of increasing the probability of failure, risks increasing losses given failure and appears to increase fragmentation and inefficiency in the intermediation process. Increased competition may be associated with more participants and industry profitability may be reduced. However, it is more likely that profits are reduced because costs are higher than because fees and margins are lower. A less profitable banking industry may simply reflect a less efficient one.

To mitigate the moral hazard of insured depositors tolerating excessive risk-taking by bank management on behalf of shareholders, advocates of deposit insurance promote schemes with: (a) caps (only a small limited amount of deposits are insured for each depositor); (b) co-insurance (only pay a percentage of losses); and (c) deposit insurance premiums based on the riskiness of the bank. However, experience is that coverage provided by deposit insurance is extended over time and by circumstances. To the extent that deposit insurance makes credible the threat that some depositors may face some losses by making it clear that small retail depositors with political voice will be protected, but no others will be, the case is made that deposit insurance adds to market discipline. Of course, that presumes that the uninsured depositors will discipline the bank but what of the bank that raises only insured deposits, or of the systemically important bank with material externalities? There may be little market discipline on such banks and the deposit insurer or regulator must constrain the rationally excessive risk appetite of the bank. As the regulator becomes ever more prescriptive and fixed with knowledge (or blamed for the lack of it), so the chances of a bail-out increase, market discipline weakens further and regulators get drawn in further. In my opinion, public sector bureaucracies find risk management extremely difficult. Rarely are the payoffs for taking more risk commensurate with the incentives facing individual decision makers. Consequently bureaucrats are too risk averse most of the time and not risk averse enough when confronted with the high probability of a bad outcome becoming even worse.

Is there a better model – one in which there is a realistic prospect that shareholders, having put up something close to the socially optimal amount of capital, are at risk, and depositors, facing a credible threat of loss, insist on that level of capital being sustained? Capital needs to stand ready to take its punishment for being associated with risky ventures that go bad, whether expected or not.

For capital to be punished, it needs to be:

- permanent;
- available at the time of insolvency;
- accessible in the jurisdiction of the obligations of the bank; and
- under no obligations to its holders that rank ahead of any other obligations.

To constitute bank capital, rights accorded to owners must be capable of being irrevocably, completely, unilaterally, and immediately cancelled in the event all other obligations are not expected to be settled in full.

### **An antidote to moral hazard**

For bank creditors (all senior unsecured creditors) to have incentives to monitor the soundness of the bank, they must face the prospect of a loss of some or all of their investment. Such a loss must be:

- reasonably expected even if extremely improbable;
- politically acceptable;
- quickly determined; and
- promptly administered.

A "haircut" is a process involving a reduction in the face value of an obligation of the bank. The amount of the reduction may reflect the negative equity of an insolvent bank which has been liquidated (a dead haircut), or the amount necessary to recapitalise a bank in order for it to continue in business. It is the latter case I wish to focus on. It is the case where bank creditors recapitalise the bank. The creditor recapitalisation option is far from a done deal but we continue to explore the feasibility of adding it to the options for managing a bank crisis. In the bank creditor recapitalisation case, creditors may recover some or all of their haircut from the subsequent sale of the bank. To the extent bank creditors have become the shareholders of the recapitalised bank, they might have all the rights of ordinary shareholders and indeed might sell their shares at a profit. Of course, by taking more of the creditors' money than is necessary to cover losses, creditors are being required to meet a social policy objective but they are the primary beneficiaries of that policy – gaining immediate access to a substantial proportion of their deposits, avoiding costly and drawn out liquidation proceedings and preserving access to the payment system. The alternative is most often the nationalisation of the bank at the expense of taxpayers.

In most parts of the world, regulators faced with a failing bank with a large number of depositors are confronted with advising governments to nationalise or liquidate the bank.

Confronted with this choice, liquidation is likely to be an unacceptable option for all but the smallest of banks. A credible regime to recapitalise the bank using depositors' and other creditors' money possibly offers a policy option that might be preferable to nationalisation.

The key features of a bank creditor recapitalisation might include the rapid assessment of the rough order of magnitude of the negative equity, placing the bank into statutory management, freezing withdrawals for a short period, deduction of a proportion of all obligations of an immediate nature and recording deductions against the name of the obligatee in a memorandum account, guaranteeing the residual obligations of the institution, if not the entire institution, and reopening the institution. Over time, the application of partial equity conversions to other time obligations as they fall due and the conversion of creditor obligations into equity could take place. While avoiding the complexity, costs and moral hazard of deposit insurance, ex ante the prospect of bank creditor recapitalisations may provide creditors with an incentive to monitor their bank and insist on levels of capital closer to the socially optimal level. A credible creditor recapitalisation option may avoid the need for and inefficiency induced by a deposit insurance regime. It may avoid the need for intrusive regulatory oversight. It seeks to protect the taxpayers interest. It may significantly reduce the public subsidy to depositors and other bank creditors arising from the put option they have not paid for and reduce the excess returns to bank shareholders from running an undercapitalised bank. It would appear to impose few administrative costs on banks to counter what is perceived to be a very low probability event. Of course, it is possible to consider a world of deposit insurance for small depositors and haircuts for other bank creditors or for a bank creditor recapitalisation scheme that distinguished between small

and large creditors. Of course, a deposit insurance scheme does not provide a solution to the question of how a systemically important bank should be recapitalised.

What is envisaged is a regime that requires pre-positioning of creditor recapitalisation capability within registered banks, and thereby offers the prospect of preserving the credit origination, liquidity transformation, and payment facilitation services while avoiding the worst liquidity impacts of a bank failure. By 'pre-positioning' I mean that as part of their Business Continuity Plans banks might be required to confirm they had the systems capability to implement a creditor recapitalisation within a specified number of business days and banks could confirm their ability to 'reconnect' with a bank which had been recapitalised with bank creditors' funds.

Politicians and regulators would no doubt wish to retain the flexibility to nationalise, recapitalise, or liquidate a failing bank.

### **Crisis management and organisational form**

For creditor recapitalisation to be a viable alternative to nationalisation or liquidation, it is essential that a bank's assets can quickly be identified. That requires legal certainty as to the owner of the claim to future cash flows. Such legal certainty does not exist if there is doubt as to the jurisdiction in which assets are located. In the absence of a global insolvency regime, at the point of failure of a transnational bank the world is destined to have a rerun of the BCCI fiasco when national regulators laid claim to assets in their jurisdiction. Years passed in some cases before rightful ownership was determined.

As the world moves to embrace first transnational and ultimately global retail banking, as banks seek efficiency from cross-border outsourcing, as competitive pressures drive aggregation and more countries play host to foreign banks which are systemically important, the more apparent it will become that not all depositors in a bank are equal. The location of assets is far from certain and outcomes on failure are unpredictable, arbitrary and potentially unfair. Predatory national regulatory practices, such as preferring home country depositors over foreign depositors within the same corporate entity or designing deposit insurance regimes as barriers to competition or as a device for unfair competition, may become a source of increasing friction. Both the USA and Australia have depositor preferences and the European Union is confronting potentially competitive national deposit insurance regimes given the flexibility allowed under the EU directive.

### **New Zealand bank regulation and organisational form**

Some of you may be aware that starting about eighteen months ago the Reserve Bank began to focus on managing a bank failure in a system dominated by foreign owned banks. To date, we have been agnostic about the matter of organisational form. We were relatively indifferent to whether a foreign bank branched into New Zealand or operated via a locally incorporated entity. In a banking regime in which public disclosure and market discipline play a central role, along with the accountability of bank directors for the sound operation of the bank, we became concerned about some aspects of the unincorporated or branch form of organisation.

Firstly, the notion of 'branch capital' in a world where assets can be moved cross border quickly and at low cost, where the very notion of a 'New Zealand' asset is losing definition and foreign depositors may be given priority in the event of liquidation, made the branch balance sheet increasingly meaningless as a guide to assets and liabilities which were likely to exist at a point of failure. In a regime based on disclosure, unexpected, unpredictable and arbitrary outcomes would not be seen as a 'fair game'. Further, the more we looked at the issues the more we, the regulator, became fixed with knowledge as to the inadequacies of branch-based disclosure.

Secondly, disclosure regimes differ markedly between countries. In some cases, the level of public disclosure by banks branching into New Zealand would be inadequate to found a presumption that depositors could be informed as to the condition of the bank. Indeed branch accounts built on the notion of branch capital can be inherently misleading.

Thirdly, the lack of local directors mitigates against the incentive effects of the full force of legal sanctions.

Finally, placing a branch into statutory management is inherently more complex, slower, and more uncertain than taking action against a locally incorporated entity.



For these reasons, the Reserve Bank concluded that in certain cases it was likely to require that retail banking business above NZ\$200 million of deposits should be conducted via a locally incorporated subsidiary. Where the bank is systemically important, or comes from a jurisdiction which prefers home country depositors or from a jurisdiction where the level of public disclosure is inadequate, local incorporation of retail deposit-taking may be required. We continue to discuss the implementation of the policy with the banks directly affected. It is worth noting that our concerns about organisational form were aroused well before our thinking on creditor recapitalisation as a means of resolving a failed bank had been developed. The case for local incorporation stands irrespective of whether a failed bank is nationalised, recapitalised, or liquidated.

It is implausible to believe that New Zealand will never again face the prospect of a major bank in distress. Our banking system is presently one of the soundest in the world. On the basis of the weighted average credit rating of the banks operating in New Zealand today, Moody's Investor Services rates New Zealand as the third soundest banking system in the world. We also have one of the highest levels of foreign ownership and, among privately owned systems, one of the most concentrated. By their nature, banks are exposed to risks which they seek to manage. It is by absorbing and managing those risks that banks contribute to our economic growth and prosperity. They transform short-term liquid deposits into long term, difficult to monitor assets. Liquidity transformation and credit origination services have volatile expected future cash flows and changing discount rates. Bank capital is the buffer that enables a bank to meet its obligations to others even when its claims on others fail to materialise as expected. Bank management does not seek to break the bank but neither do motor vehicle drivers usually seek to have accidents.

### **New Zealand's position in respect of banking supervision**

So where does that leave New Zealand in terms of banking supervision? There is a case for regulating banks given the prospect of contagion. However, bank regulation and supervision taken too far, by which I mean supervision which displaces the paramount role of directors and depositors in monitoring the bank, run major risks of weakening market discipline by reducing the incentives for sound risk management, including the holding of liquid assets and adequate capital.

It is my belief that part of the reason why we have seen a fall in bank capital ratios over the last century has been because of a weakening of market discipline. While some reduction may have been a true gain in welfare to the community through more efficient risk transfer, carried too far, inadequate capital simply allows bank shareholders and depositors to earn excess rates of return at the expense of future taxpayers.

### **So what?**

It is therefore important to take all reasonable steps to strengthen self discipline and market discipline on the banking sector, including by:

- applying high standards of corporate governance;
- ensuring high standards of public disclosure;
- defining and applying accounting and auditing standards;
- having a credible crisis management strategy;
- avoiding deposit insurance if at all possible and in particular avoiding unlimited and inappropriately priced schemes;
- minimising the extent to which depositors, perceiving banks to be too big to fail, conclude they are not at risk at all; and minimising the amount of private information regulators hold or are believed to hold so as to limit the extent to which regulators and taxpayers are implicated in practices which are found to be unsound leading to taxpayer bail-outs.

Creditor recapitalisation is one possible mechanism for making credible a non-zero probability that bank creditors, even at the biggest banks, might not be made whole in the event of a bank failure.

We are currently working on the bank creditor recapitalisation proposal and would encourage other supervisors to do so. However, we acknowledge there may be circumstances where creditor recapitalisation is not feasible and, even if feasible, may not be optimal. So our case is one for

exploring alternatives to ever more intrusive and prescriptive regulation of the risk management process which lies at the heart of financial intermediation.

The socially optimal level of capital in a national banking system will exceed the privately optimal level, being the aggregate of individual bank's assessed economic capital, if taxpayers in each national jurisdiction are expected to bear losses which, although unexpected to each bank, are 'expected' across a portfolio of banks. This is because the expectation of the socialisation of losses changes the behaviour of banks *ex ante*. Whether taxpayers should in fact bear losses, given a failure, is a different issue. That is determined by the costs of the bail-out and future costs of moral hazard, including the cost to future taxpayers. These costs to future taxpayers include the dead-weight costs of the additional tax burden to finance future bail-outs. These expected costs must be weighed against the potential costs and losses taxpayers face from the loss of liquidity transformation and credit origination services that may accompany the loss of confidence associated with depositors taking losses.

## **Conclusion**

By making credible the policy option that the bank creditors in the national jurisdiction will bear losses, the expectation of a bail-out is reduced and the privately optimal level of bank capital held in the jurisdiction converges toward the level of capital which is socially optimal.

If banks operate in widely diverse international markets, if significant numbers of depositors are expected to bear losses and are treated *pari passu*, there is reason to hope that the privately optimal level of bank capital globally will converge to the socially optimal level. In such a world, shareholders bear expected losses while bank creditors bear unexpected losses. In such a world, the role of the regulator is to protect taxpayers, current and future, from being exploited by bank shareholders and depositors. This is a role not dissimilar to the role independent central banks have in protecting savers from unexpected losses arising from unexpected inflation. Time inconsistency, which explains politicians' predisposition to excessively easy monetary policy, also explains their readiness to bail-out failing financial institutions. Anchoring inflation expectations contributes greatly to the efficient allocation of resources, so does managing expectations about who bears the risks of associating with risky banking ventures.

The Reserve Bank is continuing its policy research and consultation on bank crisis management. Our banking supervision regime is based on the three disciplines – self-discipline, market discipline, and regulatory discipline. The credibility of our regime hinges in no small part on having a credible range of options as to how we would deal with a banking crisis. We are reluctant to engage in forms of regulation and supervision that undermine incentives for banks and markets to deliver socially optimal outcomes.

In summary, what we support is a regime in which banks face incentives to hold sufficient capital to ensure the probability of failure is reduced because bank management and shareholders are aware that imprudence by them will mean at-risk depositors might run. The capital willingly held by the bank should be sufficient to align incentives of shareholders with those of regulators by ensuring the put option depositors perceive they hold is a long way out of the money. The level of bank capital needs to go beyond that necessary merely to absorb expected losses. Bank capital needs to be sufficient to absorb all but the most improbable unexpected losses.

In my view, incentive-compatible regulation does not mean setting regulatory capital equal to economic capital. Even when depositors and shareholders bear all the costs of a bank failure via risk-based premiums paid to a deposit insurance scheme, unless there is agreement on when it is optimal to socialise the cost of systemic failure, economic capital and regulatory capital will diverge. This is even more likely to be the case when shareholders and taxpayers are in different national communities. It is my contention that bank shareholders and bank creditors should bear a very large proportion of the systemic risk currently laid at the feet of future taxpayers. To shift this risk requires new instruments such as local incorporation and plans to recapitalise failing banks with creditors' money. It is necessary to ensure that capital is really available to absorb losses, and is of sufficient quality and held in sufficient quantity. Banks should face incentives to hold closer to the socially optimal level of capital.