



# COMPETITION & REGULATION TIMES

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## TIMING IS ALL a dynamic view of risk and investment

The orthodox 'static' view of investment decisions suggests that financing constraints always reduce current investment. Glenn Boyle argues that a more complex picture emerges when dynamic factors are taken into account.

**W**hen economists talk about a financing constraint, they have in mind restrictions on the ability of a firm to raise funds needed for capital investment. Such restrictions can appear in two ways. First, and most commonly, the cost of capital can be higher than is justified by the risk of the investment that requires the capital. Second, and more rarely, the quantity of capital available to the firm can be strictly limited; in this case the cost of capital becomes infinitely high at the point where the quantity restriction kicks in.

The effects of exogenous financing constraints on the firm's optimal investment policy received considerable attention from management scientists in the 1960s. However, financial economists pointed out that such an approach is ill-conceived in the absence of plausible and explicitly modelled phenomena that give rise to the constraints in the first place.<sup>1</sup> According to the economists' view, financing constraints were, at worst, a minor problem that would be eliminated in properly functioning capital markets: profitable projects could obtain any necessary funding because providers of capital would recognise such projects as good investments and thus make capital available at a 'fair' price (that is, the price that yields the projects' required rate of return on average).

### Financial friction

As is sometimes the case, the economists' arguments won the academic debate – but they appeared inconsistent with the real world, where casual observation suggests that financing constraints are a common and often unpleasant fact of life for many firms. Consequently, considerable research effort was devoted to identifying and understanding the sources of financing constraints.

Various explanations emerged from this process. First, if managers have better information about the profitability of the firm's existing assets than do capital market investors, then the latter will require a discount on the price of any securities issued to finance new assets. Second, conflicts of interest between managers, shareholders and debtholders create value-destroying incentives that add to the cost of any new fundraising. Third, contractual issues are important: because slavery is illegal, firms cannot credibly commit the human capital component of a new project and thus cannot issue fairly priced claims against this source of value. Finally, strategic issues may also play a role: firms may be reluctant to disclose valuable information to competitors by accessing capital markets.

The outcome of this research was the emergence of a new orthodoxy:

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The New Zealand Institute for the Study of Competition and Regulation (ISCR) at Victoria University of Wellington recently appointed Professor Glenn Boyle as its executive director. He took up this position in his capacity as a newly appointed professor at Victoria University.

He replaced Professor Lewis Evans who had held the position of Executive Director since the establishment of ISCR in February 1998. Professor Evans will continue his association with the Institute as a research principal on a part-time basis.

Professor Boyle held the position of Professor of Finance at the University of Otago's School of Business from 1991. He has a PhD in finance from the University of Texas and an MA (First Class Honours) in economics from the University of Canterbury.

Announcing the appointment, ISCR chairman Adrian Orr said that Professor Boyle's appointment consolidates the Institute's position as a bridge between business and academia.

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from page 1 capital market frictions can result in financing constraints and these in turn can lead to an under-investment problem. Put simply (and somewhat loosely), profitable projects may have to be foregone because the extra costs of raising the necessary funding outweigh the projects' expected profitability. This in turn creates a role for hedging, since that activity shifts cash from states of the world where the firm is easily able to fund investment to states where it cannot. As a result, hedging mitigates the under-investment problem.<sup>2</sup>

More recently, financing constraints have again become a topic of interest to economists, largely as the result of the fallout from the bursting of the United States' stockmarket bubble and the consequences of this for the raising of capital. One outcome of this revived interest is the realisation that the conventional view described above may be incomplete. In particular, by assuming a static world in which investment projects disappear if not begun at a particular fixed date, it overlooks an important dynamic element of the firm's investment decision.<sup>3</sup>

#### The dynamics of timing

In most cases, firms have some flexibility in the timing of investment. That is, it may sometimes be in the firm's best interests to delay investment in a project – either because conditions are expected to be more favourable in the future, or because there is considerable uncertainty about the project's profitability and waiting enables the firm to obtain more information about the true state of affairs.

When financing constraints are present, however, delaying investment comes at a cost. By delaying a project that could be financed today, the firm becomes exposed to the risk that it will lose the ability to finance the project in the future. In response to this risk, the starting date for some projects has to be (sub-optimally) brought forward a 'bird-in-the-hand' approach to investment.

Thus, contrary to the conventional view,

financing constraints have two effects on investment that, moreover, pull in opposite directions. On the one hand, financing constraints cause some projects to become unprofitable, thereby decreasing investment today (the conventional static effect); on the other hand, they also cause some projects to be *accelerated*, thereby increasing investment today (the dynamic effect).

This more complex outcome has some interesting implications for aggregate corporate investment. First, financing constraints may be a less important determinant of investment than the conventional view would suggest. Because of the offsetting effects described above, the optimal investment rate of financially constrained firms should be little different to those of less constrained firms (which, incidentally, is exactly what empirical research finds). Second, economic uncertainty may also be less important than is commonly believed. The standard view is that greater uncertainty discourages investment by increasing the risk of future profits, but this hypothesis is incomplete because of a failure to acknowledge dynamic considerations. Greater uncertainty about a project's profitability does indeed discourage investment, but greater uncertainty about a firm's financing capacity has the opposite effect: the greater risk of losing financing capacity in the future encourages *more* investment today, not less.

#### The hedging paradox

What about hedging? Again, dynamic factors introduce a surprising outcome.<sup>4</sup> By reducing the risk of future funding difficulties, hedging allows the firm to improve the timing and efficiency of investment. Without hedging, the firm might have to rush into investment and sacrifice some of the project's value. Or, to put it another way, hedging adds value not only because it allows investment to occur (as in the conventional static world) but also because it allows investment to be delayed. Thus, by restoring a firm's timing flexibility, hedging not only permits more investment

today; it also paradoxically encourages less investment.

The optimal dynamic hedging policy reflects these offsetting effects. In the static world, the primary determinant of hedging is the extent of the firm's investment opportunities – and so the more projects it has coming up, the greater its incentive to hedge (in order to avoid subjecting these projects to a financing constraint). By contrast, the optimal hedge depends on the flexibility of these opportunities. A firm with flexibility should follow a different hedging policy from that of a firm without flexibility (usually, it should hedge more).

In summary, the research shows that dynamic issues can have a significant effect on optimal investment and hedging policies – and that sticking to static-based policies can be costly.

1 H Weingartner. 1977. 'Capital rationing: n authors in search of a plot' *Journal of Finance* 32 pp1403-1432.

2 K Froot et al. 1993. 'Risk management: Coordinating corporate investment and financing policies' *Journal of Finance* 48 pp1629-1658.

3 G Boyle and G Guthrie. 2003. 'Investment, uncertainty and liquidity' *Journal of Finance* 58 pp2143-2166.

4 G Boyle and G Guthrie. 2004. 'Hedging the value of waiting' ([www.iscr.org.nz/navigation/research.html](http://www.iscr.org.nz/navigation/research.html)).

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# THE ECONOMICS AND ETIQUETTE OF TIPPING

The act of tipping is very much a novelty to most New Zealanders – reserved only for truly exceptional service or the most exclusive restaurants. Yet in the United States tipping is very much a social norm, with tips in US restaurants alone estimated at \$USD 26 billion a year<sup>1</sup> (almost a third of New Zealand's GDP). Steen Videbeck's been looking at some of the economic research on tipping.

To the uninitiated, tipping can be a somewhat confusing tradition. There are entire books offering advice on when to tip (it is polite to tip at restaurants but not required at fast food outlets); on how much to tip (usually between 15-20% depending on the quality of service); and even, believe it or not, on the mechanics of giving the tip (including single or double handshakes and various oddly named techniques like the peel, agent, and signal methods).<sup>2</sup> Yet, however complicated the etiquette, many believe that tipping is actually an important way to reduce what economists refer to as the principal-agent problem.

To illustrate this, consider a restaurant owner (the principal) who hires waiters and waitresses<sup>3</sup> (the agents) to serve customers food in a timely and pleasant manner – that is, to take actions on the owner's behalf. Direct monitoring of the employee's effort may be difficult and/or costly (think of following an employee around all day). But without this monitoring the employee may shirk. So in order to motivate the employee to work hard, the owner may tie their pay to some easily observed output. Such compensation contracts are commonly used in many professions, from executives to salespeople. For example, a CEO's salary may be related to the share price of the firm they manage, so that they have an incentive to work hard and raise the share price.

Tipping follows a similar rationale. While the owner of the restaurant finds it difficult to observe the effort of the waiting staff, customers are in an excellent position to do so. Thus the owner provides a lower base wage (presumably offering the meal at a lower price) and relies on the customer to choose their own service charge based on the quality of the service they believe they've received. This provides the employee with a monetary incentive to provide a high-quality service,

something that both the owner and the customer desire. It also reduces monitoring costs, creating savings that in a competitive market will be passed on to consumers. Contrast this with New Zealand, where service employees generally receive a set wage and thereby have little incentive to 'go the extra mile' especially if the additional effort will not be noticed (and rewarded) by their employer.

Unfortunately, tipping's capacity to help reduce the principal-agent problem could be negated, or even eliminated, because of the considerable stigma that accompanies stiffing (not leaving a tip). If customers, in their desire not to appear cheap, choose to leave the same tip irrespective of the level of service, then the monetary incentive to provide a higher level of service is removed and the principal-agent problem is again present.

In order to ascertain whether tipping does provide an incentive for employees to provide a better service, a number of studies have examined whether there is a positive relationship between the quality of service and the amount the customer tips. The empirical evidence from these studies is often contradictory, however. Some studies report a positive

relationship,<sup>4</sup> while others find no relationship at all.<sup>5</sup> Some even find a negative relationship – a higher tip for bad service.<sup>6</sup> And some of the factors that affect the size of a tip seem to have little to do with the principal-agent problem: for example, one study reports that touching customers when returning change increases the tip size.<sup>7</sup> So, while tipping in theory seems to offer a clever solution to the principal-agent problem, in practice it is not clear whether it offers much of a solution at all.

In any case maybe it's a good thing that we don't tip in New Zealand. One study found that tipping is more likely to be a custom in 'neurotic' countries!<sup>8</sup>

- 1 Ofer H Azar. 2002. 'The Social Norm of Tipping: A Review' (<http://pubweb.northwestern.edu/~haz019/>).
- 2 Mark L. Brenner. 2001. *Tipping for Success: Secrets for How to Get In and Get Great Service* Brenmark House, Sherman Oaks, California.
- 3 Other tip-receiving professions include hairdressers, supermarket baggers, taxi drivers, delivery people, and doormen.
- 4 Michael Lynn and Andrea Grassman. 1990. 'Restaurant Tipping: An Examination of Three "Rational Explanations"' *Journal of Economic Psychology* 11(2) pp169-181.
- 5 Michael Lynn and Bibb Latane. 1984. 'The Psychology of Restaurant Tipping' *Journal of Applied Social Psychology* 14(6) pp549-561.
- 6 Orn Bodvarsson and William Gibson. 1997. 'Economics and Restaurant Gratuities: Determining Tip Rates' *American Journal of Economic Sociology* 56(2) pp187-204.
- 7 April H Crusco and Christopher G Wetzel. 1984. 'The Midas Touch: The Effects of Interpersonal Touch on Restaurant Tipping' *Personality and Social Psychology Bulletin* 10(4) pp512-517.
- 8 Michael Lynn. 2000. 'National Personality and Tipping Customs' *Personality and Individual Differences* 28(2) pp395-404.

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# REPUTATION AND QUALITY

## reinterpreting policy instruments for services markets

Analyses of the structure, conduct and performance features of services markets imply that traditional competition-policy instruments inaccurately reflect the degree of competition in these markets – and that more weight should be put on quality and the disciplining effects of non-price competition. ISCR's Annemieke Karel explains why.



structures, on the other hand, are often the outcome of entry factors that limit the number of sustainable firms in the market. Sunk setup and advertising costs are a typical example of such factors – they are necessary upon entry but cannot be recovered when exiting the market. Another example is provided by 'network effects': network services markets such as those for transport or telecommunication services are most efficiently served by only one or few suppliers. The rules set by industry organisations, something that is not uncommon in most medical professions, are a third example.

A key structural aspect of services markets, irrespective of the number of suppliers, is its high degree of product differentiation. The very nature of services production implies that no two services are exactly the same, as service provision at any time is determined by the provider and consumer at that particular point in time. A strongly related feature is the inherent presence of asymmetric information. Services suppliers, for example, typically have more information about the quality of the services provided than most customers. In some cases, customers cannot even evaluate the quality of the services after purchase/consumption.<sup>2</sup>

Though such a market structure appears to give services providers a certain degree of market power, most services markets appear to be characterised by intense non-price competition. Non-price competition is competition that focuses on quality in the broadest sense of the word – including 'reputation'. Reputation is one of the main assets of all services providers: because many services are experience goods that cannot be evaluated before consumption, customers choose their supplier mainly on reputation.

There are several ways for services providers to engage in non-price competition and thereby improve their reputation, but advertising is the most common. In some cases, advertising may actually increase the market by reaching customers who otherwise would not have purchased the services. Advertising and other forms of non-price competition are likely to contain elements of interdependence, particularly in oligopolistic services markets. This

**S**ervices make up approximately 64 percent of world GDP, and they rank high on the international political agenda. They're also an emerging part of international trade agreements. But while WTO rules and OECD analyses have long recognised the distinguishing features of services, competition policy seems to be lagging behind.

### A closer look at market dynamics

Services have specific features that strongly influence the competition process in their markets.

Two of these features can be described as 'essential characteristics'. First, services cannot be produced without the agreement, cooperation and (in some cases) active participation of the consuming units. Second, the outputs produced

are not separate entities which exist independently of the producers or consumers.<sup>1</sup> Another distinguishing feature is the nature of production – this is often not continuous (one service is produced at a time) and economies of scale are limited. Furthermore, the nature of the product is distinctive: services are so-called 'experience goods' that cannot be evaluated before consumption, and they are often intangible.

Most services markets can be described as consisting of either many small suppliers ('monopolistic competition') or a few large suppliers that have some ability to influence the market price ('oligopoly'). Monopolistic competitive services markets are relatively easy to enter. Examples include hairdressing, car washing, and repairs. Oligopolistic market



means that an increase in advertising by one provider is likely to be met by competing providers, as they respond to competition by further promoting their reputation.

### Moving beyond price competition

Market performance is invariably linked with market structure and conduct, and is often interpreted by authorities as a reflection of the degree of competition in the market. For services, the most important aspects of performance are 'product' diversity (variety in quality), the amount of advertising, and the degree of coordination.

To deal first with diversity: theory tells us that, in the presence of constant economies of scale, the optimal number of services varieties is essentially unlimited. Welfare increases with the number of varieties available, as long as personal tastes differ for each individual (which is likely to be the case in services). Second, advertising: although this is generally thought to be excessive, it can actually contribute to greater transparency in most services markets (which are inherently characterised by asymmetric information). Finally, possibilities for coordination seem limited in most services markets, as the focus on non-price competition complicates monitoring output and detecting cheating. The reason is that services output and the degree of quality are often difficult to measure. Although industry organisations may affect entry conditions and quality standards, their powers appear to be decreasing.

### Evaluating policy instruments

It can be argued that the traditional competition-policy tools (which measure price, output, profit, and concentration) inaccurately reflect competition and performance in services markets.

To start with, measurement problems and lack of data cause price, output, and profit to be less reliable. Because of the nature of services, output in services markets is generally difficult to measure. It is unclear whether services are to be measured by output or input, and a clear quality measure is often lacking (think of measuring the quality of legal advice, for example). Because of these difficulties, few countries report on services trade. Available data are aggregated at best, full of discontinuities at worst – and systematic recompilation by international organisations has simply not yet developed.

Second, quality (the main variable in non-price competition) receives insufficient attention

in most competition analyses, leaving the authorities with an inaccurate notion of competition in the market. As modern economic literature argues, the inclusion of quality in economic analysis is likely to result in outcomes quite different from outcomes based on traditional performance-evaluation alone. Quality and diversity may increase utility and may affect both the position and shape of the demand curve by increasing total demand and possibly changing consumer reactions to price changes. This will have serious implications for welfare and a great impact on the outcomes of cost-benefit analyses.

**It can be argued that the traditional competition-policy tools (which measure price, output, profit, and concentration) inaccurately reflect competition and performance in services markets.**

A third group of policy instruments that need to be evaluated are concentration ratios. High concentrations may not accurately reflect the amount of competition in services markets, because intense non-price competition may act as a restraint on market power – that is, on the ability to raise price or preclude entry. In fact, natural oligopoly theory tells us that where competition is based on investment in sunk outlays such as advertising, we may expect to see a concentrated market structure as the outcome of a vigorous competitive process.<sup>3</sup> Empirical evidence from the retailing and banking sectors indicates that this is particularly true for services markets. Thus, whereas high concentration ratios usually alarm competition authorities and point to inefficient market performance, in services markets these ratios may actually be an outcome of vigorous non-price competition and should therefore be interpreted with caution.

Another reason for a careful interpretation of services markets' concentration ratios is that they may be based on incorrect market definitions. Defining the relevant market is particularly complicated in services because of the inherent problems of measurability. The main instrument of market definition, the often-used SSNIP test,<sup>4</sup> appears to be unsuited to evaluating competition in differentiated markets. Instead, competition authorities should look at alternative measures which recognise that demand is determined by both price and quality, and which acknowledge that a sole focus on consumers' price-responsiveness may generate inaccurate market definitions and potentially inefficient policy decisions.

Though some do not believe that an alternative sensible methodology to the SSNIP test exists, the recently updated *New Zealand Merger and Acquisition Guidelines* recognise that in differentiated product markets it is often difficult to delineate market boundaries with precision because the different products can vary in the degree to which they are substitutable. In services markets, which are differentiated by their nature, competition authorities should focus on competition analyses and should search for alternatives that account for the disciplining power of non-price competition in a market.

Such alternatives may come in the form of sector-specific regulations. In a recent report,<sup>5</sup> the European Commission evaluates various methods that are used specifically to regulate markets for professional services. Where necessary (for example, to enhance quality and improve information provision) regulators may choose to regulate prices, advertising, entry, and business structure. The Commission stresses, however, that regulators must always apply a so-called 'proportionality test' – that is, they must ensure the intervention is proportional to the problem at hand.

1 T P Hill. 1999. 'Tangibles, intangibles and services: a new taxonomy for the classification of output' *Canadian Journal of Economics* vol 32 no 2 (April 1999) pp426-446.

2 The term used in the economic literature for these type of products is 'credence goods'.

3 J Sutton. 1991. *Sunk Costs and Market Structure – Price Competition, Advertising, and the Evolution of Concentration* Massachusetts Institute of Technology, United States.

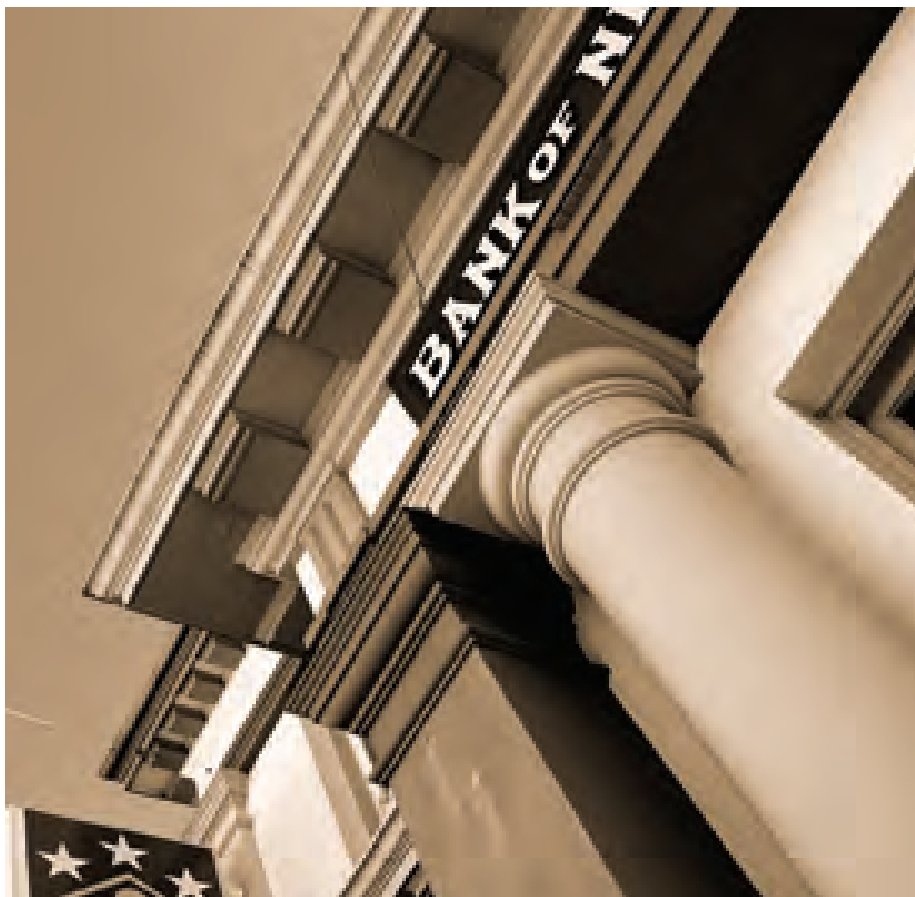
4 SSNIP: Small but Significant Non-Transitory Increase in Price.

5 Commission of the European Communities. 2004. *Communication from the Commission: Report on Competition in Professional Services* ([http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004\\_0083\\_en01.pdf](http://europa.eu.int/eur-lex/en/com/cnc/2004/com2004_0083_en01.pdf)).

**Annemieke Karel** is a researcher at ISCR.

# RESOLVING INSOLVENCIES IN BANKING

George G. Kaufman, Professor of Finance and Economics at Chicago's Loyola University, was in New Zealand recently visiting Victoria University of Wellington and the Reserve Bank of New Zealand as Professorial Fellow in Monetary and Financial Economics. As a result of his time here, he has written a paper<sup>1</sup> entitled 'Banking Regulation and Foreign-Owned Banks' – from which this article is drawn.



The views expressed in this article are those of Professor Kaufman and do not necessarily reflect the views of the Reserve Bank of New Zealand.

## Four steps to resolution

The resolution of large insolvent banks can be managed in an efficient and low-cost manner through a four-step programme:

- prompt legal 'closure' of insolvent banks according to an explicit 'closure rule'
- prompt estimates of recovery values, and corresponding losses or 'haircuts' to be imposed on the banks' depositors and other creditors
- prompt reopening of the bank under temporary government-agency control, with full guarantee of existing deposits at the 'haircutted' or protected amounts
- prompt reprivatization through recapitalisation at adequate capital levels; or, primarily for small banks, liquidation.

## Prompt legal 'closure'

Prompt legal 'closure' of insolvent banks according to an explicit 'closure rule' implies terminating the interests of existing shareholders. At the same time, senior management should generally be changed. The rules for legal closure should be publicly disclosed fully, so that all players know the rules of the game. The United States recently introduced clearly specified rules for prompt corrective action (PCA) by regulators in relation to financially troubled banks, including a clear legal closure rule when a bank's equity declines to 2% of its assets. PCA imposes a number of other triggers; and when these occur the regulators first may, and then must, impose sanctions to increase the cost of poor performance by banks and try to turn them around before they fail.

## Prompt estimates of recovery values

Prompt estimates of recovery values and the

**T**here is a widespread perception that bank failures are more damaging to customers of the affected banks, both depositors and borrowers, than the failure of other like-sized firms and more likely to spill over to other banks (through knock-on effects), to the payments system and the financial system as a whole, and even to the macroeconomy. Beyond the direct damage, bank failures are also perceived to be more frightening than the failure of other firms for a number of reasons. For example: banks deal in intangibles, making it more difficult for many to understand their operations compared to (say) grocery stores; almost everyone has contact with banks in their daily life; bank deposits frequently represent the owners' principal and most liquid assets; banks operate the payments system; and bank assets can move very quickly and are very large in the economy.

For these reasons, bank failure is highly disruptive, and it must be recognised in the formulation of public policy. More than 50% of all countries in almost all parts of the world have experienced serious banking crises in recent memory, and the costs of these crises have been high.

A large share of the high social costs of bank failures arises from poor and inefficient means of resolving insolvencies. Resolutions are frequently delayed until long after the banks become insolvent, and the costs are not fully imposed on the banks' creditors or owners. The remainder is imposed on the taxpayers. Good public policy demands that these costs can and should be reduced; and that they should be largely removed from the shoulders of taxpayers.

imposition of corresponding losses or 'haircuts' on the banks' depositors and other creditors requires current and accurate information about a troubled bank before its insolvency.

The magnitude of depositor 'haircuts' depends both on the promptness of legal closure and on public policy. The quicker a bank is resolved, the smaller the losses are (and therefore the smaller the depositors' haircuts are likely to be).

Public policy is important because it may at times be directed at protecting two groups of depositors partially or fully against loss. Small depositors may be protected primarily for political reasons – and it may also be economically efficient to protect them, because it is costly for small depositors to collect and process the information they require in order to monitor and discipline their banks and so protect their reasonably small accounts.

Large depositors may be protected if the imposition of full pro-rata losses on them creates a serious threat to financial stability. This is the so-called 'too big to fail' or TBTF policy. However, TBTF in the United States showed that protecting large depositors removed an important source of discipline on the banks and increased the likelihood of future losses – and so the United States introduced legislation that prohibited protection of uninsured depositors and creditors in bank resolution. There was an exception to this, however: under Systematic Risk Exemption (SRE), protection could be granted if the lack of it threatened aggregate financial instability. But invoking SRE is not easy. It requires, among other things, approval from the Secretary of the Treasury following consultation with the President. To date it has not been invoked in the United States.

#### **Prompt reopening**

It is important that banks of any substantial size are not physically closed for any extended length of time after they are legally closed. Among other things, physical closure implies that borrowers cannot extend maturing loans, and that depositors do not have full and immediate access to even the haircutted value of their accounts. To keep banks open and operating, the regulators need to arrange for advancing (to the depositors) the expected proceeds from the pending privatisation.

#### **Disclosure and transparency**

To be effective, the four-step programme must

be fully developed, in place on the shelf for immediate use, and fully and widely disclosed to the public. If it is not, political pressures at the moment of crisis will overcome any ability of policymakers to stand back and develop a programme. If the programme is widely and fully known, bankers and the public will modify their behaviour and regulators will be able to act with greater confidence. The 'tougher' and clearer the insolvency rules, the greater also will be market discipline (by bank shareholders) on misbehaving bank management.

**Recent surveys suggest  
that a substantial percent-  
age of the New Zealand  
population believes that  
depositors would be  
protected in bank failures.  
If this belief is widespread,  
the regulators' credibility  
is at stake ...**

#### **New Zealand arrangements**

New Zealand currently prides itself on not having an explicit deposit-protection programme. But there may be an implicit one. The Reserve Bank Act provides the bank with the authority to act as a lender of last resort if it considers this is necessary for maintaining the soundness of the financial system. Although the purpose of any intervention may not be to protect depositors, the vagueness of the Act's language permits such an interpretation. In 2000, then Deputy Prime Minister Jim Anderton stated 'It's inconceivable that banks can be allowed to fail with all the repercussions that would go through the whole community.'<sup>12</sup> Furthermore, recent surveys suggest that a substantial percentage of the New Zealand population believes that depositors would be protected in bank failures.

If this belief is widespread, the regulators' credibility is at stake – and, in the area of pruden-

tial regulation, credibility is the most important weapon that regulators have. Unless a significant percentage of depositors truly perceive themselves at risk, emphasis on public disclosure is less effective. Disclosure is a necessary but not sufficient condition for market discipline to be effective. If few depositors or other bank creditors perceive themselves at risk, information disclosed is less likely to be processed and used to discipline banks.

So what specific regulatory approaches could be recommended for New Zealand? Large depositors should be left unprotected; explicit protection could be provided for small depositors, in the form of full insurance for the first x dollars of deposits. It is easier to leave large depositors unprotected, as they can monitor their bank's financials and are accustomed to taking risks in their short-term investments. To enhance credibility, it is also important to impose explicit high barriers for invoking exemptions (such as in the United States' SRE).

New Zealand could also benefit from adding both a simple capital-leverage ratio to the 'Basel' type of risk-based capital-measure requirements that it now imposes on banks, and a fuller version of the PCA that includes a number of explicit triggers for intervention by the Reserve Bank on a progressively harsher and more mandatory basis. The leverage ratio minimises gaming and puts banks on the same basis for comparison as all other firms. Multiple intervention triggers would improve the probability of regulators being able to 'turn around' troubled banks before failure; and they would also reduce the probability of delayed or weak action by regulators.

Although some of these suggestions would increase regulation and supervision, they would not be unduly intrusive if a bank is well operated. Indeed, this is a carrot-and-stick structure that may be viewed as reinforcing the incentives for banks to avoid getting themselves into such unfortunate positions; and it would basically formalise the informal monitoring and consultation that occurs now.

An additional regulatory arrangement that would merit discussion is a plan to enhance market discipline by requiring banks to issue subordinated debt, a proposal receiving attention in some countries. But that is for another day.

<sup>1</sup> 'Banking Regulation and Foreign-Owned Banks' *Reserve Bank of New Zealand Bulletin* June 2004 vol 67 no 2 p65.

<sup>2</sup> 'For the Record' *Reserve Bank of New Zealand Bulletin* September 2000 vol 63 no 3 p69.

# PROFITABLE GOVERNANCE FOR NON-PROFIT HOSPITALS

Governance – its structure, design and operation – has received considerable attention in recent years.<sup>1</sup> But this attention focuses almost exclusively on privately owned companies. How do the principles of institutional and governance design differ for state-owned and other non-profit organisations? Bronwyn Howell provides some insights.<sup>2</sup>

England's National Health Service (NHS) foundation trust hospitals and New Zealand's crown-owned hospitals are non-profit publicly owned entities charged with providing efficient services responsive to individual local community needs within certain constraints. These constraints are: that services be provided free to the patient; that they use health-service assets which were historically acquired by the state and must remain in public ownership and control; and that they meet product-range, performance-quality and budget requirements set by centrally controlled national bodies.

The health sector reforms in both England and New Zealand since the 1990s have seen significant structural and governance changes both in the health sector and for public hospitals. England has pursued a clear separation between purchasers and providers. Publicly owned primary-care trusts (PCTs) purchase services from consumer-owned cooperative-like NHS foundation trust hospitals, which are governed by a majority of representatives elected by a local membership along with appointees of key hospital stakeholders (such as commissioning PCTs and universities engaged in teaching at the hospital). In contrast, following the quasi-market of the 1990s where crown-owned health-purchasing businesses bought services from crown-owned hospital businesses (both governed by ministerially appointed boards), New Zealand has reintroduced mixed purchaser/provider district health boards (DHBs) to manage both state-owned hospitals and purchase contracts with other public and private providers. These DHBs are accountable to boards that are a mix of ministerially appointed and locally elected members.

## Designer issues

The challenge typically facing designers of non-profit and state-owned governance structures is: how to design institutions and contracts that compensate for the absence of



an ownership interest (which weakens the incentives for monitoring the non-profit's performance, and hence its ability to operate efficiently and deliver products that reflect consumer need).

In a typical for-profit company, governance design can usually rely upon the availability of information about corporate and individual (that is, managers' and board members') performance being made available through four distinct channels: product markets, finance markets, regulation, and internal reporting.<sup>3</sup> High (or rising) market share will indicate that the company's products are responsive to customer needs.

Share price, share trading activity, and the possibility of a board or management takeover all act as finance-market disciplines on the organisation. Shareholders can signal dissatisfaction with performance, for example, by selling shares or replacing the board.

However, because of the absence of ownership shares and associated trading, non-profit organisations all lack finance-market information. Health systems where local geographic purchaser and provider monopolies prevent genuine patient choice (in service provider, range and quality) also lack market information exchange about product preferences. Consequently, in non-profit governance structures much greater importance must be placed upon regulatory and internal control mechanisms to furnish the information necessary for decisionmaking and to ensure that decisionmaking agents use this information appropriately. Whilst constitutions and contracts may be able to specify the fiduciary and operational expectations of board members and managers, monitoring and enforcing the expected performance requires information to be at the right place at the right time. Unless organisational and governance design provides appropriate incentives for the information to be collected and disseminated and acted upon, non-profit health sector organisations risk being less efficient and responsive than their for-profit counterparts.

## Local hazards

The English NHS foundation trust and New Zealand DHB reforms endeavour to overcome the problems of responsiveness to local needs by requiring boards to have a majority of locally elected members. This helps ensure that knowledge of local needs is considered in decisions on the type, scope, and quality of hospital services. But whereas all voting citizens in the geographical area covered by a New Zealand DHB vote, only qualifying citizens who opt to become members of an



English NHS foundation trust (by paying an annual £1 membership fee) participate in the election process. NHS foundation trust members can be local residents, patients of the hospital during the last two years, or staff members.

Both systems have problems. Only individuals with a particular interest in health and hospital matters, who are therefore not necessarily representative of the 'average' health consumer, are likely to take an active interest in New Zealand DHB politics and hence monitor organisational performance. Other citizens free-ride on their efforts and regulatory oversight, as indicated by the low voter-turnout for local health board elections. In England, only those individuals who have a specific interest in health issues and hospital management are likely to become members. Membership is thus likely to be disproportionately comprised of self-interested groups, such as patient-advocacy representatives and staff.

Of particular concern in the English case is the ability of staff to become hospital trust members. Staff salaries are by far the largest outgoing for a hospital, and hence decisions about staff salaries and working conditions are amongst the most important issues affecting organisational performance and efficiency upon which boards must make decisions. The ability of staff to hold the balance of power in board decisions on their own remuneration and working conditions, through a disproportionate influence over the election of the majority of board members, poses a potentially significant conflict of interest that threatens to disadvantage the balance of beneficiaries of the hospital's services. In the absence of other mechanisms for voicing dissatisfaction (such as selling one's shares or switching to another service provider), non-profit organisations typically require stronger contractual mechanisms to prevent opportunism from arising or persisting. Thus, most non-profit organisations prevent staff from becoming members or sitting on the board. The English structure may be more prone to exploitation of this type than the New Zealand one.

### Efficiency and responsiveness

The New Zealand product's market structure, on the other hand, may be less responsive to differences in local needs than the English system, and it offers fewer opportunities for purchaser competition to induce efficiencies in

service provision. English NHS trusts can compete with each other (where geographically feasible) to provide services under contract to PCTs. A single hospital may develop different product ranges and qualities of service for different PCTs, and may negotiate different quantities of services of varying types and qualities among PCTs in response to local prioritisation preferences (for example, more hip replacements and fewer cataract operations for one PCT relative to another). New Zealand DHBs, with local geographic purchaser and provider monopolies,<sup>4</sup> lack market mechanisms for determining differences in patient preferences and delivering different services. Absence of competition between hospitals for contracts thus limits the extent of differentiation and innovation that is likely to occur in New Zealand hospitals, compared to English ones.

Both the New Zealand and English organisational and governance structures pose difficulties in accruing efficiency gains. In the absence of other mechanisms, non-profit organisational efficiency is crucially dependent upon the decisionmaking skills and actions of its board. This requires high-calibre, informed and knowledgeable board members with few conflicts of interest who place the well-being of the organisation and its patient beneficiaries first in their decisionmaking. However, board members face incentives towards individual self-interest which (if the incentives are strong enough) will be pursued at the expense of the hospital's interests.<sup>5</sup> In both countries, appointed board members may face conflicts between the interests of the hospital and the interests of the bodies that appoint them. New Zealand appointees are responsible to the Minister of Health, whereas English appointees are responsible to agencies that also enter into commercial contracts with the hospital. There may be political or commercial conflicts that compromise the ability of the board members to act in the hospital's interests, thereby reducing the extent of efficiency gains and patient responsiveness that may accrue.

### Questions of calibre

Furthermore, in both cases, elected board members may be held accountable by their voting constituencies for outcomes that are outside their decisionmaking control. In England, service prices are set nationally –

even though meeting local preferences incurs cost variations. Boards unable to satisfy strongly-held local preferences at national remuneration levels may face electoral defeat through no fault of their own. Population-based funding and central political overriding of operational decisions made by local boards in New Zealand impose similar constraints. Consequently, high-calibre decisionmakers may be less likely to offer themselves for board candidature if they are forced to bear the costs (for example, upon their reputations) of others' decisions, leaving only less-capable candidates offering themselves. This reduces the calibre of decisionmaking, making it less likely that the efficiency gains sought from better governance and management practices will be achieved. Moreover, unwise decisions may remain in force longer before being detected and reversed.

There is no single 'magic formula' for the design of governance systems for either for-profit or non-profit organisations. However, the special constraints on non-profits impose additional challenges. Any organisational structure or governance design must take into account the special characteristics of the products and services the organisation provides and the wider commercial and political environment in which it is offered.

The hospital case study reveals many challenges to the governance design of publicly owned health entities that are yet to be addressed. The similarities and differences between the English and New Zealand approaches provides a real-life experiment in governance design which will provide rich learning. All publicly owned and financed service-provider organisations may benefit from this.

1 Most recently in New Zealand with the Securities Commission's *Corporate Governance in New Zealand: – Principles and Guidelines* (published February 2004; see <http://www.sec-com.govt.nz/publications/list.shtml>).

2 This article is taken from a recently published paper on institutional design and governance challenges: Bronwyn Howell. 2004. 'Lessons from New Zealand for England's NHS Foundation Trusts' *Journal of Health Services Research and Policy* vol 9 no 2 pp104-109.

3 M C Jensen. 1993. 'The modern industrial revolution, exit and the failure of internal control systems' *Journal of Finance* 48 pp831-880.

4 This theme is explored in 'Has Corporatisation Made our Public Hospitals Sick?' *Competition and Regulation Times* Issue 3 December 2000 pp5-7.

5 B Holstrom and P Milgrom. 1991. 'Multitask principal-agent analyses: incentive contracts, asset ownership and job design' *Journal of Law and Economic Organisation* 7 pp24-52.

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# REVISING THE REVISIONISTS MORE ON THE WACC

In the last issue of *Competition & Regulation Times*, Glenn Boyle argued that a long-standing consensus over how the cost of capital (WACC) is estimated is unravelling – in particular, that the use of the CAPM is questionable because it ignores unsystematic risks, and that these risks are both relevant and significant in assessing investment projects. In the world according to Boyle, regulators who rely upon the CAPM will underestimate WACC and therefore induce under-investment in the industries that they regulate. But Martin Lally, from Victoria University's School of Economics and Finance, sees some problems in this approach.



## OPINION PIECE

So, when a firm cannot articulate the precise events and probabilities underlying its claim for a margin, the regulator concerned with assessing or removing excess profits is entitled to view such a margin with considerable scepticism. In my experience, these margins are generally lacking in transparency.

### Tangling with time

The second issue raised by Professor Boyle is that of timing options possessed by firms – that is, the right to invest at the time judged optimal by the firm. Suppose that a proposed new project costs \$10m, that its WACC is estimated (in the traditional way) to be 10% per year, that the future cash flows are currently expected to be \$1m per year indefinitely, and that the firm has flexibility in deciding the date on which to begin this project.

If the firm invests now, the present value of the future cash flows is \$10m and therefore the net present value (NPV) is zero. However, delay may be optimal. In particular, suppose that it is not optimal to invest until the expected rate of return on the \$10m investment is 20% rather than 10%. If it does invest at that point, the cash flows are then \$2m per year (while the investment cost and the WACC remain constant at \$10m and 10% per year respectively). So the presence of this timing flexibility gives rise to excess profits of \$1m per year – that is, profits in excess of those that underlie the NPV of zero.

Suppose that the regulator is concerned with assessing whether excess profits exist. If they used a WACC of 20% rather than 10%, they would conclude that there were no excess profits – and yet the example clearly reveals that excess profits exist. So the act of

I agree with Professor Boyle that various types of possible events not fully captured in systematic risk measures are relevant to project evaluation in unregulated situations, and that *some* of them might even be dealt with through adjustments to WACC. But it does not follow that all adjustments of this kind will also be appropriate in a regulated situation. Even if they are appropriate, a high degree of transparency in determining the allowance should be required by regulators.

### Regulation requires transparency

The first issue raised by Professor Boyle is when losses on a particular project give rise to reluctance on the part of capital suppliers to fund new (and desirable) projects by the same

firm. This is a type of financial distress – and it is not generally acknowledged in capital investment appraisal, possibly because it is considered slight.

The 'right' way to quantify this kind of issue is to estimate the probabilities of the relevant events and the losses arising in those circumstances. Of course, this is difficult to do; and a second-best solution in an unregulated situation may be to simply add a margin to WACC in recognition of the issue. As long as this margin is ultimately connected to an analysis of event probabilities and losses, complete transparency may not be essential here. In regulated situations, however, firms have clear incentives to inflate the margin, and therefore transparency is crucial.

adopting a WACC of 20% would simply undercut the whole process of identifying excess profits. It follows that the WACC used to assess excess profits should not include the 10% 'timing option' margin.

Now consider another example: a firm has the opportunity to produce and sell a new product, the project cost is \$10m, and the traditionally defined WACC is 10%. If the firm charges \$100 per unit, then the expected future cash flow will be \$1m per year, and therefore the present value of the future cash flows will be \$10m. In other words, the NPV will be zero.

But suppose also that the firm operates in an imperfectly competitive market and the optimal output price is \$150. At this level, the expected future cash flows are \$2m per year and the present value of the firm increases to \$20m. This is equivalent to saying that the optimal action for the firm is to choose an output price that yields an expected rate of return on the \$10m investment of 20% rather than 10%. Clearly, this would not be an argument for a regulator using 20% in assessing the firm's excess profits, and to do so would preclude the regulator from ever detecting these excess profits.

Both this situation, and the situation involving timing flexibility, involves the firm altering its behaviour (choosing the optimal time to invest or the optimal price to charge) so as to earn an expected rate of return in excess of WACC. Neither situation warrants any margin being added to WACC for the purpose of assessing excess profits.

This analysis of the timing option assumes that the regulator is concerned with assessing excess profits. If instead the regulator is concerned with setting an output price, the price should be such that the present value of the future cash flows matches the initial investment (defined in the traditional way) and therefore excess profits are expected to be zero. Again, this implies that there should be no WACC margin to reflect timing options.

It might be argued that the output price should also guide firms to invest at the socially optimal point in time. But there is no margin that can be added to WACC which will ensure that firms invest at the socially optimal time, or even at the point that they would have invested in the absence of regulation. In fact, since a firm would receive the same margin regardless of when it invested, firms would be encouraged to invest at the earliest possible

time (to maximise the period for which the margin was earned). The fact that a WACC margin could be effective in optimising timing in the unregulated situation, but not in the regulated one, is because the situations are quite different – revenues are essentially exogenous in the first case and endogenous in the second.

#### **Opportunity costs**

The third issue raised by Professor Boyle in his article was that of constraints over the number of projects that a firm can undertake. Adoption of one desirable project may involve foregoing future desirable projects, and the lost NPV is an opportunity cost of adopting the chosen project. Accordingly, in assessing new projects, a margin could be added to WACC in compensation.

As in the issue of timing options, however, the fact that a margin on WACC may be appropriate for the purpose of assessing new investment does not imply that it will also be appropriate for the purpose of assessing excess profits or setting an output price. In fact, the existence of this opportunity cost simply reflects the existence of excess profits on the adopted project, and adding a margin to WACC would simply undercut the whole process of identifying or removing them.

Suppose that a firm adopts a project that costs \$10m, has a traditionally defined WACC of 10%, and is expected to generate net cash flows of \$3m per year indefinitely. The excess profits are then \$2m per year. Suppose adoption of the project precludes adoption of another project in the immediate future which also promises excess profits of \$2m per year. Adopting the first project therefore has an opportunity cost equivalent to a WACC increment of 20%. If the regulator were to add this 20% to WACC for the purpose of assessing excess profits, it would undercut the whole process of identifying the excess profits that are clearly present. Similarly, if it added the 20% margin to WACC for the purposes of setting an output price, it would be granting an output price that embodied excess profits.

#### **Regulatory scepticism justified**

Some kinds of possible events that are not fully captured in systematic risk measures and yet are relevant to project evaluation in unregulated situations should at least be considered by regulators when they are assessing excess profits and setting output prices. An example

is the possibility of financial distress. (However, if the regulated entity argues for a margin to be added to WACC, then it must be able to articulate the events and probabilities that underlie its argument; otherwise, a regulator is entitled to view such margins with considerable scepticism.) On the other hand, certain other kinds of events that are not fully captured in systematic risk measures and yet are relevant to project evaluation in an unregulated situation should *not* be recognised by regulators at all. Examples are timing options and opportunity costs in the form of the NPVs of foregone future projects.

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# INVESTING IN SHARES

## Here, There, or Everywhere?



A significant proportion of New Zealanders invest in shares, either directly or through a professionally managed fund. And, as taxpayers, all New Zealanders now have at least an indirect exposure to the sharemarket through the recently established New Zealand Superannuation Fund. While most investors agree that there's a case for holding a mix of both New Zealand and foreign shares, there's considerable disagreement about the right mix. Richard Frogley draws out the issues.

**I**nvestors today have a choice about which countries' sharemarkets they invest in. The majority of the world's publicly traded shares can be bought and sold by investors from almost any nation in the world.<sup>1</sup>

The choice of which shares to invest in is an important decision. For a typical New Zealand superannuation fund, shares are the most volatile asset held, and they make up half or more of its portfolio.

So how should Kiwi investors choose their mix of New Zealand and foreign shares?

Collectively, investors across the world own shares worth more than US\$16,000 billion. The New Zealand market makes up just 0.1% of this total – but many commentators argue that New Zealand investors should focus their portfolio, with a much greater weighting on New Zealand shares.<sup>2</sup>

In principle, of course, investors have the option of focusing their portfolio on any country, industry, or company they choose. But most New Zealanders probably wouldn't be too happy if our government decided to stake a quarter of our super money on the performance of Mexico or Coca-Cola.<sup>3</sup> Despite both the Mexican market and Coca-Cola having a greater value than the New Zealand market, most people agree that this

would create unnecessary risk. Similarly, the average Mexican probably wouldn't be too happy if their government decided to stake a quarter of their pension on the New Zealand market.

### Here versus there

Those making the case for a small domestic weighting argue that focusing one's portfolio on New Zealand increases risk – just as it would if it were focused on any other single country or firm. They note that this is particularly so for the New Zealand market, which is a tiny fraction of the world's market and is heavily concentrated in a handful of firms (one of which makes up more than a quarter of the market's entire value).

So the question is why a New Zealander should focus their portfolio on New Zealand, whereas a Mexican shouldn't. If it were just a case of the New Zealand market being unusually attractive to all investors, buyers would keep pushing up its price until it wasn't so attractive. For Kiwis to focus their portfolios on New Zealand, our market must offer *us* a unique advantage to investing here – one not enjoyed by a foreigner investing here.

Those making the case for an 'at home' focus argue that New Zealanders do indeed

enjoy a unique advantage over others investing here. They argue that we can achieve a higher-than-normal expected return because we can take advantage of imputation credits, incur lower transaction costs, avoid the need for costly currency hedging, and perhaps have access to better information about New Zealand companies.<sup>4</sup>

New Zealanders focusing their portfolio on New Zealand must balance these additional expected (on average) returns against the extra risk.<sup>5</sup> This balance will vary with the additional returns, the risk, and the relative importance of these to each investor.<sup>6</sup>

It's been pointed out that some studies suggest sharemarkets are increasingly moving together. If so, then the added risk of focusing one's portfolio on a particular market may be less than before. Nonetheless, the additional risk is still there, and so investors should not focus their portfolio on any one market unless they have a definite advantage from doing so. And as technology continues to increase access to information and to reduce international transaction costs, the edge that investors have in their home market may be shrinking. Global evidence suggests that, while investors do invest more than average in their own market, this is becoming less marked over time.

To conclude: New Zealand investors may have an advantage in investing domestically – but don't put too many of your eggs in one basket.

1 Exceptions exist, including countries with capital controls (such as China, Venezuela and, until 1984, New Zealand).

2 The NZSX50 is capitalised at US\$23 billion; the MSCI World Free Float Index at US\$16,350 billion.

3 Note the New Zealand Superannuation Fund is only part of the value of future pensions.

4 The argument based on imputation credits (perhaps the strongest one) assumes their benefit is not fully reflected in New Zealand equity prices.

5 Since benefits increase linearly with the domestic weighting (whereas added risk starts small but increases exponentially), some additional weight is likely optimal – but not to the exclusion of foreign shares.

6 For example, the benefits of imputation credits vary with individual tax situations. The risks of additional exposure to New Zealand vary with reliance on New Zealand for labour income.

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