



# COMPETITION & REGULATION TIMES

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## BIDDING FOR BECKHAM

### The next frontier in government policy?



Should a city council be in the business of paying David Beckham to play soccer? What was the government thinking when it offered New Line Cinema a tax break worth NZ\$300-400 million to shoot the *Lord of the Rings* trilogy in New Zealand? Johannes Van Biesebroeck ponders these and related issues.<sup>1</sup>

I live in Canada – a country with a large neighbour snapping up its domestic firms, a budget surplus taking on ridiculous proportions, and a currency appreciating 30% over the last couple of years. Sound familiar?

Another thing that New Zealand and Canada have in common is that the drum-beating for government support to help ailing manufacturing firms is getting louder. The list of calls urging the New Zealand government to aid firms that are contemplating relocation overseas, or to spend money trying to attract foreign direct investment, grows longer by the day: Professor Michael Porter, the Progressive Party, the New Zealand Institute, the WTO, the OECD.

One difference is that politicians in the icy north have to a surprising degree warmed to the call. Over the

last three years, initiatives worth more than CA\$6 billion (NZ\$7.8 billion) in public support have been launched by Canada's federal and provincial governments, most of it in the form of investment subsidies.

Great, you might say. At least the New Zealand government is resisting populist calls that feed on people's insecurity over globalisation. Governments should not be picking winners. Small wonder that these Canadian deals are hatched in secret, far from public scrutiny, only to be announced at a big press conference in some economically distressed area.

But perhaps the New Zealand government is neglecting a crucial role as steward of the economy. Shouldn't it try to stem the exodus of manufacturing jobs to China, or intervene when exporters are getting trounced on

international markets? The financial support enjoyed by the film industry has received as much criticism as praise but the government has been reluctant to extend it to other sectors.

City councils have shown less restraint. In 2005, Wellington poached the World of Wearable Arts awards show away from Nelson; recently Christchurch pulled a similar coup, attracting the Ellerslie International Flower Show from Auckland. Last year Terry Serepisos' Wellington Phoenix staged a friendly soccer game against David Beckham's LA Galaxy. Several locations vied for the honour of paying \$2 million to host the game and Wellington's city council graciously chipped in an undisclosed amount (rumored to be \$300,000) to seal the deal.

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### To bid or not to bid

What to make of this? Does it make sense for governments to spend money to attract foreign investment or local events, or does it just waste taxpayer money? I argue that it depends crucially on two things: the presence of externalities and the competition of other jurisdictions.

The subsidies rely on the simple logic that you have to spend a dollar to make a dollar. The government will spend some dollars, and the community will reap rewards in multiples – either directly through tax revenue or indirectly as the local economy is boosted. For example, Wellington's city council has adopted a benchmark requirement of \$20 of additional revenue generated for each \$1 of support it gives. It's not clear how the council established this multiple, but in principle a sufficiently high multiplier must exist to make the subsidy worthwhile.

The tricky part is determining which revenue is 'additional' and what multiplier is to be used. If Beckham hadn't played in Westpac stadium, how many of the 31,000 supporters would have spent their money elsewhere in the city? Furthermore, the required multiplier for breakeven is clearly lower if Wellington pubs make a \$3 profit per pint rather than \$1. The real test is whether every dollar spent by the city council generates an extra dollar of economic profit locally – which is hard to measure. Enter the somewhat arbitrary but cautiously large 20-to-1 multiplier.

When you're handing money to Toyota to build a new assembly plant, which is a frequent occurrence in North America, you can predict with some confidence that for each job directly created an additional six to seven will be created downstream in the parts sector. If you shoot a blockbuster movie in New Zealand, it will create jobs not only for crew, extras, and production houses but also for carpenters, hotels, and catering firms.

How much are these jobs really worth? How much 'extra' activity is generated? Without the assembly plant or movie shoot,

these people would not have sat by idly. Most would have been gainfully employed in some other occupation, contributing to the economy in another way. When politicians are gloating in front of the cameras, boasting about all the extra jobs they created, they conveniently forget about the opportunity cost of all that labour input.

Perhaps they can be forgiven, as the concept of opportunity cost (the value of resources in their next-best application) is one of the harder ones in economics. But that does not make it less important. If an extra had not battled orgs in Middle Earth, how much would she have earned in her next-best employment opportunity – or enjoyed additional free time?

### Million dollar plants

Unfortunately, by their very nature, opportunity costs are impossible to observe. In a recent paper Enrico Moretti and Michael Greenstone show how to use local property values (which reflect the expected future benefits of living in a certain locality) to cut through the data problems.<sup>2</sup> These values capture the collective judgment of all people on the impact of a large-scale investment project on the local economy.

To construct a sample for their statistical analysis, Moretti and Greenstone turned to the corporate real estate journal *Site Selection*. The journal has a running series called 'The Million Dollar Plant' that reports on a county where a large plant has chosen to locate (the 'winner') and also on the runner-up county (the 'loser'). If an extensive site search of thousands of potential locations has narrowed the choice down to only two counties, we can assume these final two are quite similar in all relevant aspects. Whether to go with one rather than the other is often decided by a tiny detail, maybe even a coin-toss. We should expect the fortunes of the two counties to have evolved similarly, but with a twist: one now lands a big industrial project (a Million Dollar Plant) but the other does not. We have a so-called 'natural experiment'.

From a sample of 92 counties, the authors find an increase in property values of 1.1% to 1.7% in winning versus losing counties. So, taking into account all relevant costs, some net benefits seem to exist. In winning counties, the authors also find a 1.5% jump in labour earnings in the new plant's industry – which suggests one channel for the positive effects. These results undermine the critics' view that the provision of local subsidies to attract large industrial plants reduces local residents' welfare.

### The gloves come off

But the case against subsidies runs deeper than measurement problems. If attracting these plants is so valuable, surely counties will be falling over themselves to attract them. This is exactly what's happening, which makes the gains documented above somewhat surprising (because one might expect all potential welfare gains to have been competed away, through subsidies offered to the firm).

In my own research, I illustrate how competition to attract these projects can be analysed using game theory. Each location brings a different intrinsic value to the firm. In addition, the local government can offer an incentive package to boost its attractiveness, often in the form of training subsidies, tax breaks, or improved infrastructure.

Basically, different jurisdictions are bidding in an auction to attract the project. In the process, a fraction of the externalities (the social value of the project) is transferred to the firm. Take the Ellerslie Flower Show as an example. In Auckland, the show attracted 60,000 visitors and generated some \$14 million in economic activity for the city – although the above discussion has already

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1 This article is based on: J Van Biesebroeck. 2008. 'Policy Watch: Governments at the Bidding Table' (available at [www.iscr.org.nz/n403.html](http://www.iscr.org.nz/n403.html)).

2 E Moretti and M Greenstone. 2003. *Bidding for Industrial Plants: Does Winning a 'Million Dollar Plant' Increase Welfare?* NBER Working Paper No. 9844. July.

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# It's ALL in the NAME

In late 2006, Australia's Coles group embarked on a \$910 million strategy that involved bringing its store brands under one name. The strategy was a disaster, and was abandoned in Easter 2007 with costs already in the hundreds of millions. Nicholas Plimmer ponders the lessons from this debacle.

At the time of the rebranding, Coles and Woolworths were the two major operators in the Australian supermarket sector. In addition to 'Coles' stores that competed directly with Woolworths – both emphasised fresh produce, high-quality service, excellent product variety, convenient locations, and low prices on core goods – the Coles group also operated 'Bi-Lo' stores, which catered primarily to the budget-conscious consumer.

For a number of years, the Coles group had been second to Woolworths and was looking for ways to address the gap. Two factors encouraged it to believe that rebranding its Bi-Lo stores as 'Coles' would assist this objective. First, Coles thought that its Bi-Lo brand was being adversely affected both by the success of the two big chains (Coles and Woolworths) in making themselves more relevant to value-conscious consumers and by the growth of the German discount chain Aldi, which had opened 150 stores since entering the market in January 2001. Second, Britain's Tesco had had considerable success with an 'umbrella' strategy for its operations, thereby encouraging Coles to believe that a similar move could also work in Australia.

With this reasoning, Coles decided to rebrand its 212 Bi-Lo supermarkets as Coles supermarkets.

The process commenced in November 2006. But it was halted at Easter 2007 when it became clear that customers who had previously shopped at Bi-Lo were shifting to non-Coles supermarkets in droves. At that point 70 of the 212 Bi-Lo outlets still carried the Bi-Lo livery.

## What went wrong?

Research has identified four principal factors in determining shoppers' choice of stores:<sup>1</sup>

- price
- location (proximity, ease of access, and car parking)



- service (staff service, cleanliness/ambience, and the payment options available)
- variety (including freshness of produce).

Before the re-branding, the Coles and Woolworths stores emphasised variety, service, and location. At the other end of the spectrum, Aldi offered low prices across a narrow range of goods. In between were the Bi-Lo stores – slightly higher prices than Aldi, but a much wider product range.

Although all four factors are important to most shoppers, their *relative* importance varies across markets and across types of shoppers.

The Coles re-branding strategy underestimated the importance of price to its Bi-Lo shoppers, over-estimated the importance of service and variety, and misinterpreted the impact of location.

## You paid how much?

After the re-branding, Bi-Lo customers were faced with a choice between shopping in the same location (but now under the Coles banner) and switching to Aldi, Woolworths, or some other grocery store. Because of Bi-Lo's no-frills low-price approach, many of its customers were likely to be highly price-conscious shoppers who placed only moderate value on service and variety. And that is what happened: their preference for low prices discouraged them from switching to a Coles or Woolworths store. Many chose Aldi's lower prices instead.

## Location, location, location ...

Not all Bi-Lo customers had reasonable access to an Aldi store, however. And the Coles group believed that because the rebranded Bi-Los were in exactly the same location as before, these customers would continue to shop there.

This thinking ignored the interaction of price and location in determining customers' shopping decisions. Many Bi-Lo customers had been prepared to travel considerable distances to shop at

Bi-Lo, foregoing closer options in order to access lower prices. After rebranding, these customers were faced with a choice between an 'out of the way' Coles (the previous Bi-Lo) and a closer Coles or Woolworths. Even if they placed only a tiny value on location, they would switch to the closer of these two major supermarkets. Assuming a 50/50 split, half of this subset of Bi-Lo customers would have switched to a Woolworths.

## The price of a name

While the Bi-Lo rebranding may have seemed to offer significant cost savings to Coles, the strategy significantly miscalculated the adverse effect on consumer demand. Two erroneous assumptions – that supermarket shoppers were no longer price-sensitive, and that shoppers would not change to a store at a different location – resulted in the Coles group losing hundreds of millions of dollars and also significant market share.

<sup>1</sup> R G Walters and S B McKenzie. 1988. 'A Structural Equation Analysis of the Impact of Price Promotions on Store Performance' *Journal of Marketing Research* 25 pp51-63.

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# Water – at any price



The cost of urban water services and how they should be charged to urban consumers is a particularly sensitive issue – and it's an issue that the current review of local authority rating and funding (the rates inquiry) will almost certainly be grappling with. One symptom of this sensitivity is the debate over water meters and their apparent user-pays implications. But, as Chris Hunt points out, the strong emotions aroused in such debate tend to distract from the real issue: choosing the best funding base for the sustainable management and delivery of urban water services.<sup>1</sup>

**A**ccording to 2005/06 local authority annual reports, New Zealand's investment in water and wastewater infrastructure is in excess of \$10.2 billion – no small amount of asset investment. This infrastructure can have between 80 and 140 years of useful life (depending on such issues as location and geological activity in that location). It represents an investment essential to human, social, environmental, and economic wellbeing.

Because of its value and useful life, such an investment should be given long-term consideration. But there's more. Water itself, *the* environment-sustaining resource, is fundamental to the supply of both water and wastewater services and so its management needs may also be an ever-increasing consideration. This is already the case in Australia. There the needs of urban water services compete directly with environmental and non-urban water needs; and the combination of these needs was the primary driver of Australia's shift to a service-delivery 'pricing'

model as opposed to a rate or tax.

In New Zealand at present, water's resource-management needs do not appear to influence the rate/tax vs pricing decision. But the size and sustainability needs of the underpinning infrastructure would appear to be emerging as an issue. There would appear to be hints (if only anecdotal) of growing water sensitivity as a result of localised droughts such as those recently experienced in Hawke's Bay, Otago, the Kapiti Coast, and the South Island's West Coast. When these events are combined with lowering groundwater levels and increasing demands for irrigation attributable to expansion of such industries as dairy, how we price the supply of sustainable water services is worthy of some real consideration.

#### **Lessons from across the ditch**

So, what might a pricing framework that has the aim of sustainably funding our urban water services look like? Some insight can be provided by the contingencies considered in

the Australian framework, the end result of which is a two-part tariff (with a fixed and a variable component). Given the infrastructure's long life, a 10- to 25-year planning period was adopted. Residual considerations in choosing this 10- to 25-year planning horizon included the resourcing capacity of smaller water entities, the need to gain the advantages of long-run marginal utility, and a lowering of the fixed-cost component of the two-part tariff. In developing countries the choice of a lower fixed-cost component in such pricing models is far more pragmatic and is determined by two basic considerations: the amount of water the World Health Organisation (WHO) deems necessary to meet the basic needs of an average size family (between 26 and 30 kilolitres or cubic meters per month); and the capacity of people to pay. This base amount of water is referred to as a lifeline or safety limit.

In order to sustainably deliver water services in urban areas, a number of contingencies need to be considered. They can be

summarised in a functional relationship as follows:

$$R = f(OA, OAM, OS, D, FI, RROR)$$

Where:

$R$  = revenue

$OA$  = operating assets

$OAM$  = operations and maintenance costs

$OS$  = operational support

$D$  = demand

$FI$  = future investment

$RROR$  = a real rate of return

The required revenue ( $R$ ) is contingent upon those factors presented on the right-hand-side of the relationship. Operating assets' age/condition and value ( $OA$ ) are considered in terms of their capacity to meet supply demands, their potential impact on operations and maintenance activity and costs ( $OAM$ ), and their contribution to the determination of a real rate of return on the investment. Operations and maintenance ( $OAM$ ) means the ongoing costs required to maintain and manage the existing infrastructure in meeting the service delivery objectives of the water-supplying entity or local authority. Operational support ( $OS$ ) refers to the costs of sustaining the entity as well as to operations and maintenance support costs. Demand ( $D$ ) is present and future volumes of water services determined by current and expected customer needs. Future investment ( $FI$ ) considers the planned present contribution to the renewal, replacement and/or augmentation of infrastructure required for the sustained delivery of services. In Australia, a real rate of return requirement ( $RROR$ ) is sought of public entities and, in part, is designed to counter the effects of the time-value of money.

The above functional relationship forms the basis of a pricing model that in turn provides a mechanism for managing the demand for water as a resource. This is as it should be: considerations of a lifeline limit should inform water-demand management initiatives.

The pricing model that was developed in Australia was designed to overcome the Australians' chronic underpricing of water. Their tax-based funding system for water supply had evolved predominantly as a sub-component of the general (land) rating system – which is a politically determined revenue base that only by coincidence raises the funding necessary to sustain the delivery of water services. It was based on a fractional

component of the improved (or unimproved) value of the land to which the water services are provided and had no connection to any of the contingencies that need to be accounted for in the capture, treatment, supply, and management of water services and water resources.

You may also note that the functional relationship does not consider water other than in terms of the volume demanded. This practice is common internationally, particularly where water services are publicly controlled and operated. So, you may ask, what is the significance of the water meter and why is it so emotive when it comes to determining the pricing of urban water services?

#### **A meter by any other name**

The emotive significance of the water meter goes directly to the issue of paying for water – and, more directly, to paying more for water (although water per se is not charged for). But the operational significance of the water meter lies as much in it being an essential tool for the management of water-services infrastructure as it does in determining the variable component of the household water bill. The latter contributes to hot air and hot heads. The former contributes to improving both the management of sustainable water services and the accountability of local authorities for this.

Most water systems already employ bulk-flow meters to break down measures for examining the efficiency of water mains. But without water meters being attached at the delivery (consumer) end, no meaningful assessment can be made of risks such as loss of water from the system. That is, leakage cannot be identified as being due to age, accident, or a breach of the water system's security (natural or otherwise). A breach of a water system's security compromises reactive and proactive maintenance of the system as well as assessments of the system's current and future supply capacity – to name but a few management implications that can have negative implications for costs and accountability. In these circumstances, the much maligned water meter is a significant contributor to risk management and planning information.

#### **Political waters**

The issue of water-meter sensitivity aside, the emotion behind Australian resistance to the adoption of a sustainable water-pricing

framework would appear to be driven by more pragmatic political sensitivities. Although it was made clear that water was not being charged for in the pricing model, 66% of Queensland urban water entities rejected their opportunity to adopt this model. It cannot be determined definitively that these entities' historic underpricing influenced their choice. But, in the work done for our paper, Keitha Dunstan and I established an 85.5% probability that sensitivity to the prospect of higher prices (made necessary by a combination of infrastructure age and static or declining revenue bases) significantly contributed to the rejection.

There is a further reason why Queensland water entities may have been reluctant to change. Under the Australian rate/tax model, water entities have access to federal- and state-funded capital grants and soft loans. Access to these funding sources would disappear under the pricing model, and so could result in a transfer of economic resources away from communities that chose to adopt pricing.

The age of an infrastructure's assets certainly provides the potential for pricing inequities. A supplier managing an older infrastructure will have less time to raise funding for renewal, replacement, and/or augmentation of that infrastructure – and these problems will be compounded where the supplier with the older infrastructure also has a declining revenue base.

Unfortunately, debate over the pricing of water services can be easily distracted by emotion such as that generated by the water meter, as well as by sensitivities to the potential for increases in water-services prices. The debate should focus on the costs we need to consider in managing our sustained access to water as a resource and on the subsequent price we are prepared to pay for the environmental, social and economic costs arising from that access. To this end, is a tax-based or price-based model more appropriate?

<sup>1</sup> This article is based in part on: C J Hunt and K D Dunstan, 2007. 'Why do Queensland water entities resist the adoption of user-pays pricing?' (available at [www.iscr.org.nz/n429.html](http://www.iscr.org.nz/n429.html)).

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# Private affairs

Can we rely on participants in private-equity placements to self-regulate? Or does the lack of regulatory control on issuers and purchasers lead to abusive behaviour? Hamish Anderson finds that, on the whole, self-regulation appears to work. It can also provide richer information on firm quality to all market participants.<sup>1</sup>

**R**ights issues and private placements are the two main methods of raising new equity capital by NZX-listed companies. Rights issues allow all existing shareholders to buy new shares; if they do, their ownership is not diluted. By contrast, privately placed shares are sold to a small number of purchasers – and the non-participating shareholders experience a dilution in their ownership of the company and in their claim on the company's future profits.

Markets regulate the mechanism for private-equity placement in order to protect non-participating shareholders. While markets have a number of common private-placement regulations,<sup>2</sup> the overriding regulatory philosophy is *either* to control the behaviour of the purchaser by restricting when and to whom they can sell the privately placed shares (as happens in the US) *or* to place controls on the issuers by restricting the price at which the company can sell the new shares (as in Australia and Singapore).<sup>3</sup>

Having restrictions on purchasers reselling the privately placed shares leads to

large liquidity risk for purchasers. So, when their selling behaviour is controlled, they negotiate sizeable discounts on current market price to compensate for this liquidity risk. (Private-equity shares are on average issued at larger discounts in these markets than they are in markets like Australia and Singapore, which control discount size.)

## A hands-off approach

But what if there is no regulation controlling either the discount size or the re-sale shares? Well, until 2003 this is exactly how New Zealand operated. And it had the potential for companies to sell new shares at heavily discounted prices to selected purchasers (which was not possible in Australia or Singapore), with these purchasers immediately reselling these shares on the sharemarket (which was not possible in the US). In doing so, the purchaser would quickly bank a sizeable profit.

While exploitation is possible, in the absence of explicit regulation the issuers and purchasers of private-equity placements are

left to self-regulate. Issuers wouldn't like to damage their reputation by abusing their position and selling shares cheaply to selected investors as this might jeopardise future capital-raising undertaken by the company. Purchasers, on the other hand, should negotiate higher discounts based on the risks they face in acquiring the new shares.

By examining the market reaction surrounding private-placement announcements and determining whether discount size is related to risk factors, we can gain some insight into whether the market effectively self-regulated. Alternatively, did the lack of regulation result in exploitation by the issuers and purchasers?

## Was self-regulation abused?

The sample consisted of 70 private placements issued by 55 firms, identified from the NZX diaries during the period 1990-2002. The average funding raised was \$23 million per placement, which is about half the average size of a rights issue in New Zealand over the same period. Just over a quarter of the sample

was placed at a premium to the market price; three-quarters were at a discount. The average premium was 5% above market price, the maximum premium was 27%, and the average discount was 10%. The largest discount was 55% of the current share price.

The fact that over a quarter of the sample were sold at prices greater than market price suggests that self-regulation worked at least for this subsample of private-equity placements. It is unlikely for the purchaser to buy premium-placed shares with the sole view of making sizeable profits by re-selling immediately on the market.

To determine whether or not issuers and purchasers are exploiting the 'weaker' regulation for discounted private-equity placements, the following two questions need to be answered:

- Are purchasers immediately selling the new shares in the sharemarket?
- Is there any relationship between risk and reward for the purchasers?

Increased risks facing purchasers should be offset by larger discounts negotiated between the issuers and purchasers (and therefore larger potential rewards for the purchaser).

Both anecdotal evidence and market rumours support the allegation that private-placement purchasers immediately dump the shares to turn a quick profit.<sup>4</sup> Examining the trading behaviour surrounding private-placement announcements yields some evidence to support these allegations. The volume of shares traded in the five days following a discounted announcement is 14 times higher than normal. In contrast, premium placements were less than five times the normal trading volume over the five days. While investors will rebalance their portfolio in response to the new information, it is unclear why portfolio rebalancing would result in a significantly higher abnormal volume of trading for discounted placements compared with premium placements.

So there is some evidence that points to the possibility of purchasers immediately selling the new shares to turn a quick profit. However, this is not evidence of exploitation or abuse of the self-regulated environment itself. Even if they are turning a quick profit, purchasers may simply be earning an acceptable return for the services and risk they undertake. In a market that lacks re-sale restrictions, the private-placement purchaser takes on the roles (such as due diligence and

informing the market) that an investment banker and underwriter would have in a rights issue or other public offering. The private-placement purchaser guarantees that the company receives its funding – and by selling immediately on the sharemarket, the purchaser realises a return for these services.

### **Pulling it altogether**

Purchasers of New Zealand private placements provide a service to all shareholders by better informing them of the underlying firm value. This is evidenced by the strong relationship between placement price and announcement returns. The relationship appears stronger than that found in overseas markets that control either the purchaser or issuer behaviour.

There is also a strong relationship between the sizes of the premium or discount available to purchasers and the firms' risk-and-return characteristics. The greater the risk, the greater the discount (and therefore the greater the potential reward for purchasers). For example:

- Purchasers receive higher discounts for firms with higher financial risk as measured by debt-to-equity ratio.
- The higher the risk of a firm's stock returns, the greater the discount.
- There is a negative relationship between discount size and return on equity which suggests that higher earnings in the prior year results in smaller discounts being negotiated between the issuing firm and the private-equity purchasers.

Interestingly, there is no significant relationship between various liquidity measures and discount size. If purchasers wanted to ensure they could offload the new shares quickly, then we would expect them to negotiate deeper discounts for more illiquid shares. For example, companies whose shares trade infrequently or in very small volumes would find it difficult to sell the new shares. But as the discount appears to be unrelated to share liquidity, it is difficult to argue that purchasers of deeply discounted shares are solely seeking to turn a quick profit.

### **Taking it further**

For the most part, the evidence suggests that self-regulation worked during the period examined. There was a strong relationship between the size of the discount or premium negotiated and various risk factors and

measures of quality of earnings. In fact it appears that, in an environment where price and ability to re-sell are not regulated, the placement price conveys important information to the market about firm quality.

In 2003 New Zealand adopted the Australian and Singaporean approach of restricting discount size to a maximum of 10%. While self-regulation appears to have worked in the earlier period, it may be that some individual issuers or purchasers did exploit their position. Further, the studies do not examine what would be considered to be an excessive return for the risks undertaken by purchasers. Therefore, the benefit of the current regime is that it provides the market with confidence that exploitation cannot occur and eliminates the negative perceptions tied to deeply discounted placements.

On the other hand, New Zealand's current restrictions on discount size may make it difficult for some companies to raise new equity. For example, purchasers may be less inclined to partake in offerings from higher-risk or overvalued companies as the rewards would not be commensurate to the risks. This would have a negative impact on the ability of these types of firms to raise equity capital quickly.

1 This article is based on: H D Anderson. 2006. 'Discounted Private Placements in New Zealand: Exploitation or Fair Compensation?' *Review of Pacific Basin Financial Markets and Policies* 9(4) pp533-548; and H D Anderson, L C Rose and S F Cahan. 2006. 'Differential Shareholder Wealth and Volume Effects Surrounding Private Equity Placements in New Zealand' *Pacific Basin Finance Journal* 14 pp367-394.

2 Common forms of regulation include minimum disclosure requirements and restrictions on who can buy privately placed shares (e.g. institutions and high-net-wealth individuals) and who cannot (e.g. directors of the issuing company). These forms of regulation did not exist in New Zealand before 2004.

3 For example: in Australia and Singapore the maximum discount at which a company can privately place new shares is 10%. So if the current share price is \$1.00 then the new shares issued using the private placement mechanism cannot be sold for less than \$0.90.

4 For example, see: N Bryant. 2000. 'High and dry investors angry over drained Aquaria' *The National Business Review* May 12 p7.

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# Growing Global

## The MULTINATIONALSATION of New Zealand AGRICULTURE

What is the source of New Zealand's comparative advantage in agriculture, and from where can growth in agriculture-sector returns be expected? Our distance from markets, the growing concerns over 'food miles', risks from climate change, rising land values, competitive pressures from lower-wage countries, and failure to secure breakthroughs in agriculture-trade liberalisation all present challenges to growth. An important response of the New Zealand agriculture sector to these challenges has been 'multinationalisation' – the increasing international diversification of supply by New Zealand primary producers and processors through ownership and other means. Richard Meade explains.<sup>1</sup>

**I**ncreasingly New Zealand producers are either buying land in other countries and adding New Zealand know-how to boost productivity, or buying overseas agriculture processors to leverage New Zealand's processing and exporting know-how. They are even combining New Zealand know-how in production, procurement, processing, exporting, and branding with the complementary skills of overseas companies involved in some or all of these activities, to broaden their global footprint in all of them.

Examples abound. Fonterra now has billions of litres of milk supply from Australian, US, Latin American and Chinese dairy farms to complement the 14 billion litres it sources from New Zealand farmers. It uses its processing knowledge to process products for local markets and its export expertise to take milk products from these countries to others. While New Zealand lacks a free trade agreement with America, Chile does not – so Fonterra's Chilean production can then side-step trade barriers and access the US market more easily than its New Zealand production can; but profits are channelled back to its New Zealand owners. Whereas New Zealand is soon to implement an emissions-trading scheme that will impose a price on agricultural greenhouse gas (GHG) emissions, this is unlikely to be the case (at least for a while) in many countries where Fonterra's production is expanding.

Fonterra is not alone. New Zealand's horticultural producers have already seized on a useful model to overcome problems of uncoordinated Southern Hemisphere marketing of apples and kiwifruit in key European markets. But, with better storage technologies undermining the seasonal marketing advantages they previously enjoyed in Europe, these producers face other



problems. One answer to all this is to invest in new apple and kiwifruit varieties through R&D, with New Zealand producers controlling the intellectual property. Both ZESPRI and Seeka are licensing overseas production of the trademarked and successful 'Kiwifruit Gold'. ENZA is doing likewise for the popular 'Jazz' apple. Suddenly they are not just New Zealand producers, but international ones. And suddenly the 'food miles' argument becomes

slightly moot – Europeans might be buying a New Zealand-controlled variety whose intellectual-property returns are shared with New Zealand producers, but the actual fruit is produced locally by local growers. There's also a prospect of sidestepping Australia's phytosanitary obstacles to New Zealand apple exports – perhaps New Zealand growers should licence Australian ones to grow these premium varieties on their behalf? Or set up their own orchards in Australia to grow them themselves?

Multinationalisation in New Zealand's meat sector has been slower, which may reflect ongoing coordination and over-capacity problems. However, prominent exemplars present themselves. Rissington Breedlines now contracts farmers in New Zealand and Britain to produce lamb of consistent year-round quality based on its know-how in breedlines and farming techniques – and it has designs on Latin America as well. Soon it will be the sole supplier of 'New Zealand' lamb to British supermarket chain Marks & Spencer. Whether or not the 'food miles' argument has any merit, it suddenly becomes a lot less important when the produce is locally sourced for at least half the year.

Meanwhile New Zealand Farming Systems Uruguay (NZFSU) has taken a different tack, buying relatively cheap pastoral land in Uruguay and boosting its productivity by adding New Zealand farming expertise. New Zealand-Chilean joint venture Chilterra is doing likewise to increase productivity on Chilean dairy farms. Similar strategies are being adopted by non-agricultural concerns: whiteware manufacturer Fisher & Paykel retains its design focus in New Zealand but is relocating an increasing amount of its production to lower-cost countries closer to



markets. The model is not New Zealand's, and not confined to agriculture, but New Zealand agricultural producers are embracing it all the same.

#### **So far so good, but ...**

What new questions do these strategies raise?

An obvious one is how multinationalisation squares with the 'Pure New Zealand' brand. It may dilute the brand, since the multinationalised New Zealand producers mix product from a variety of countries. But these producers can now claim local branding advantages in each of the countries in which they operate, since they can legitimately point to 'home grown' produce made by local producers (especially where licensing and contracting are used to secure local supply instead of outright ownership).

Another question is whether New Zealand producers want to see their growth coming more from securing overseas supply than from expanding it in New Zealand. With increasing competition for land use in New Zealand and with growing concerns about environmental degradation from intensified farming, it is conceivable that agriculture in New Zealand will become increasingly specialised in higher-valued niches while commodity production grows offshore. Moreover, if adverse climate change cannot be responded to by a relocation of domestic production to other parts of New Zealand, local producers will need to consider shifting the balance of their production to more favourable climates overseas. While this retains some ongoing role for those in New Zealand who wish to work on the land, over time an increasing share of their returns will derive from beyond the domestic farm gate – and from beyond New Zealand.

Whether and how New Zealand producers take advantage of that growth (or whether they leave it to non-farmer investors) depends on ownership structures, capital requirements, risk appetites, and the need or desire for control. Where producers have the advantage of intellectual property rights to new varieties, they can enjoy returns from offshore growth through royalties and other such licensing fees. Fonterra's cooperative farmer-owners enjoy returns from the company's multinational operations through their cooperative ownership stakes. The benefits of NZFSU's activities in Uruguay flow to its shareholders (who are not necessarily New Zealand meat producers). Whether or

## **Where producers have the advantage of intellectual property rights to new varieties, they can enjoy returns from offshore growth through royalties and other such licensing fees.**

not New Zealand producers can access the returns from offshore growth in production will largely hinge on their willingness to risk capital in downstream organisations, and on the extent to which they are prepared to cede control in either their domestic or offshore downstream activities (if such is the price of securing capital). Fonterra's farmer-owners recently signalled their preference to preserve control, but it remains to be seen whether this will significantly diminish its ability to continue its multinationalisation. A more pressing question is whether the ailing meat-processing industry will be able to reinvent itself and take advantage of the strategy in some shape or form, regardless of capital constraints on cooperatives.

Since important elements of the multinationalisation strategy include offshore investment and the use of New Zealand agricultural know-how, is the local institutional framework right? Provided that domestic agricultural and other commercial institutions are flexible and not biased in favour of particular approaches, producers can take some comfort that things will work themselves out. Already they have seen recent changes that align more usefully with the strategy. For example, in 2007 New Zealand moved to align its taxation treatment of active income from

offshore companies with that in other developed countries – so local companies no longer face a tax-based obstacle to expanding their business offshore. Also, after many years of supporting foreign direct investment in New Zealand, New Zealand Trade and Enterprise now has an increased focus on supporting outbound direct investment by New Zealand companies offshore. So perhaps the Ministry for Foreign Affairs and Trade should have an increased focus on securing investment access and intellectual-property-right protections in target countries, in parallel with its advocacy of agricultural-trade liberalisation at the World Trade Organisation? And perhaps the Ministry of Agriculture and Forestry could support the multinationalisation strategy by exporting some of its regulatory expertise to less developed countries – and so help to improve productivity growth in countries beyond the farm gate, as well as on the farm?

Finally, with increased weight being placed on know-how in New Zealand's offshore production expansion, questions arise about the country's R&D framework. New apple and kiwifruit variety breakthroughs have come from industry collaboration with Crown Research Institutes (CRIs) such as HortResearch. Breakthroughs in new grass varieties to reduce GHG emissions from farming are likely to require the involvement of others. And while local opposition to the planting or growing of genetically modified (GM) produce is likely to remain and even intensify, multinationalised New Zealand producers may wish to see continuing domestic-led breakthroughs in GM technologies (which they can then control and use in countries less opposed to growing and consuming such produce).

Whether or not New Zealand producers have the resources to fund such research while retaining control of the breakthroughs will remain a challenge. With CRIs becoming an increasingly critical part of the New Zealand producers' supply chain, perhaps there is a case for those producers to collectively own those CRIs, rather than have them sell their expertise to the highest bidder?

1 This article draws on aspects of L Evans and R Meade. 2007. 'The Effect of Industry Structure and Institutional Arrangements on Growth and Innovation in the New Zealand Agriculture Sector' (available at [www.iscr.org.nz/n354.html](http://www.iscr.org.nz/n354.html)).

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# MORTGAGE MARKETS after the SUB-PRIME CRISIS

On 19 June 2008, members of the Australia-New Zealand Shadow Financial Regulatory Committee (ANZSFRC) met in Wellington to consider the future for mortgage markets and their associated securitised products in the wake of the sub-prime crisis. The following *Statement* summarises the results of their deliberations.<sup>1</sup>

**T**he sub-prime crisis arose primarily from inappropriate credit practices in US mortgage markets and their transmission into capital markets via securitisation and the development of complex structured products. Neither Australia nor New Zealand appears to have encountered similar problems. Nevertheless, securitisation markets in Australia have been disrupted (even frozen) while many non-bank lenders in New Zealand (where securitisation is nascent) have experienced difficulties and some have failed. In addition, the mortgage broking industry in both countries has declined after growing substantially over the past decade and accounting for approximately 1/3 of mortgage originations by 2007.

## The future for securitisation

Securitisation converts loans or mortgages into capital market securities backed by pools of such assets. In the 1990s, financial institutions began to bundle relatively illiquid financial assets such as mortgages and sell them on capital markets for cash. This access to liquidity enhanced the flexibility of bank asset management, including the ability to take advantage of unexpected new lending opportunities. In effect, securitisation is an alternative funding channel to intermediated bank finance, through which credit risks are diversified within capital markets. Although the initial growth of securitisation partly reflected regulatory arbitrage under the Basel I Accord – albeit often with residual risk remaining on bank balance sheets or their securitisation vehicles – the increasing importance of institutional investors such as pension funds will continue to underpin demand for securitised capital market instruments, even in the presence of weaker Basel II regulatory incentives.

*Thus, despite recent problems, ANZSFRC regards securitisation as a financial innovation which is now embedded in banking and capital market practices.*

... unlike investment advice, advice on borrowing is largely unregulated, or rather self-regulated, in both Australia and New Zealand.

Nevertheless, recent instability in capital markets poses a significant challenge to securitisation, prompting discussions about whether the securitisation process should be directly regulated. But securitisation per se is not the problem. Poor risk management, reliance on third-party analysis, and flawed mortgage-origination practices are more important sources of the recent turmoil.

Fluctuations occur in any financial market, and excessive asset-price volatility causes concerns for market participants and policy-makers. But the recent problems in the secondary markets for securitised products have also led to the freezing of activity in their primary markets. In particular, many mortgage originators relying on securitisation have found their business models unworkable. The migration of mortgage business back to bank balance sheets potentially restricts the supply of credit to the small business sector. This experience has prompted calls for intervention in securitisation markets.

The remainder of this statement considers three recent proposals for intervention in securitisation markets.

## Covered bonds

Common securitisation practice in many European countries involves the use of covered bonds, whereby a bank issues securities secured against a specific pool of assets, such as mortgage loans, on the bank balance sheet. In Australia, the Australian Prudential Regulation Authority has rejected approaches from the industry to permit covered bond issuance as being inconsistent with depositor-preference legislation. In New Zealand, the issue is under consideration by the RBNZ.

Such 'on balance sheet' securitisation may create better loan-origination incentives given the residual risk held by bank shareholders, a risk that arises because unmet obligations to covered bondholders rank behind those of depositors but above those of shareholders in the event of failure. One consequence, however, is that using covered bonds may increase the cost of equity capital for the bank, offsetting any apparent lower funding cost. But, if Australian and New Zealand banks wish to use such a form of funding, there need to be compelling grounds for prohibition.

The case for prohibition, which to date has been made on depositor-protection grounds, is less than compelling. Both off-balance-sheet securitisation and the issuance of covered bonds remove the mortgages involved from the asset pool against which depositors have first claim, and thus have similar implications for depositor protection. Australian depositor-preference legislation may need to be amended to accommodate such a change, but the planned introduction of the Financial Claims Scheme reduces the emphasis which needs to be given to that feature of depositor protection.

*ANZSFRC recommends that authorities in both Australia and New Zealand give further consideration to the merits of allowing banks to issue covered bonds. Approval could be subject to strict limits*

on the proportion of total liabilities in the form of covered bonds.

### Government-backed securitisation

One suggested intervention intended to support securitisation is the creation of a government-backed institution to supplement private demand for mortgage-backed securities. This institution's demand would backstop private market demand in the event of a pronounced downturn as recently experienced. The institution would fund its purchases by issuing its own debt instruments with an explicit government guarantee. An advantage claimed for this approach in Australia is that it would supply a risk-free asset for retail investors. However, there are more direct ways to fill this gap that do not require the creation of another public institution which may itself be in no better position to assess and price credit risk than the market is, and whose activities may crowd out, and thus further harm, the industry it was intended to support.

That said, the idea of backstopping demand for securitised assets is intuitively appealing to some. Others point out, however, that this role is already fulfilled by central banks, and that a new institution is therefore redundant. Indeed, both the RBA and the RBNZ have intervened during the current sub-prime crisis. However, central-bank intervention relieves short-term liquidity constraints whereas the essence of the current sub-prime crisis is the disappearance of credit. Buyers of ostensibly high-quality mortgage-backed securities have simply disappeared.

**ANZSFRC members responsible for drafting this *Statement* were: Christopher Adam (University of New South Wales), Glenn Boyle (ISCR), Steven Cahan (University of Auckland), Kevin Davis (Melbourne Centre for Financial Studies), Ian Harper (Melbourne Business School), David Mayes (University of Auckland), Lawrence Rose (Massey University), Alireza Tourani-Rad (Auckland University of Technology).**

### In brief

1. Despite its recent problems, securitisation is a financial innovation which is now embedded in banking and capital market practices.
2. The authorities in both Australia and New Zealand should give further consideration to the merits of allowing banks to issue covered bonds. Approval could be subject to strict limits on the proportion of total liabilities in the form of covered bonds.
3. The involvement of the public sector in securitisation is a topic worthy of further exploration in the context of a broader investigation of mechanisms for enhancing the stability and efficiency of capital markets.
4. It would be desirable to evaluate the effectiveness of existing regulation of investment advisers before replicating it for mortgage advice.

*ANZSFRC believes the involvement of the public sector in securitisation is a topic worthy of further exploration in the context of a broader investigation of mechanisms for enhancing the stability and efficiency of capital markets.*

### Regulation of mortgage advice

An immediate reaction to any problem in financial markets is to suggest an extension of regulation, and indeed the Australian Green Paper on Financial Services and Credit Reform canvasses just this option with respect to mortgage advice. It has a point because unlike investment advice, advice on borrowing is largely unregulated, or rather self-regulated, in both Australia and New Zealand.

However, before rushing ahead it is worth reflecting on three points. First, unlike the United States, there is no evidence of widespread mis-selling or misrepresentation of the client's characteristics to the lender despite extensive use of mortgage brokers in both countries. Second, no amount of regulation can compensate for financial illiteracy in the face of increasingly complex financial products. Third, it is not at all clear how effective the regulation of investment advisers has been in any country.

*ANZSFRC believes it would be desirable to evaluate the effectiveness of existing regulation of investment advisers before replicating it for mortgage advice.*

<sup>1</sup> More information about ANZSFRC, and its previous *Statements*, can be obtained from: [www.iscr.org.nz/n364,47.html](http://www.iscr.org.nz/n364,47.html)

### Bidding For Beckham: from page 2

stressed that, because of opportunity costs, only a fraction of this amount is a net gain. When the contract with the Auckland Regional Council came up for renewal, several cities approached the owners with offers to attract the show. Christchurch prevailed, but it had to pay for the honour.

If bidders are rational, the value of landing the show should exceed the cost, at least in expectation. But by how much? My analysis illustrates that the net value for Christchurch is expected to equal the difference between its own private and social value from hosting the event and the total value at the runner-up location. Perhaps the Garden City will be able to boost show attendance or raise the quality and enjoyment for visitors. Perhaps it is cheaper to organise the show in a less crowded area; or perhaps the organisers in Christchurch have a lower opportunity value for their time. Mayor Bob Parker even suggested that the show is a better fit and will create spillovers, perhaps in terms of higher tourist revenues.

Similar arguments are made to defend the movie industry grants, Beckham's visit to Wellington, and Canadian automobile plants. They have merit. But, to the extent that benefits would also have accrued to the runner-up location (Auckland or Hamilton in the Ellerslie case), Christchurch has to hand them over to the show's owners. It will only be able to capture those benefits that are unique to its own location.

Those unique benefits are probably hardest to quantify in advance. How to assess 'fit'? How can one be sure that these elusive spillovers will materialise but remain confident that they would not materialise for our bidding competitors? In a world full of uncertainty, it is only natural that voters remain highly sceptical when politicians enter this bidding game with the public's money – even for projects with demonstrably high value.

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# Observing the Unobservable



A common problem in finance and economics is that many models developed for practical purposes depend on parameters that are unobservable, thus severely limiting their usefulness in the very situations for which they were ostensibly designed. Glenn Boyle discusses how, in some situations, this problem can be overcome – and provides an illustration from commercial real estate.<sup>1</sup>

**F**ormal theoretical models in economics and finance often produce very precise predictions and formulae for variables of interest to decisionmakers. In principle, therefore, these models can be used to inform important decisions simply by 'plugging in' values of the relevant parameters. Unfortunately, many of these parameter values cannot be directly observed. Some notable examples include investor risk aversion in models of optimal portfolio construction, stockmarket volatility in option pricing models, and manager effort aversion in models of optimal compensation contracts.

One way of addressing this problem is to use some other model, usually in conjunction with historical data, to estimate these unobserved parameters. However this runs the risk of introducing a consistency problem – the pricing or behavioural implications of this second model may differ from those of the original model, thus leading to results that inadvertently combine 'apples and oranges' in an ad hoc manner. Even if this is not the case, the model used to estimate the unobserved parameter may simply be unsuitable for that purpose.

## Turning the original model on its head

These problems could be avoided by estimating the unobservable parameter *within* the original model structure. A simple way of achieving this is to effectively 'invert' the original model in order to 'back out' the unobservable parameter value. For example, suppose we are interested in calculating the value of some asset, but that the model we wish to use for this purpose contains an unobservable parameter – a discount rate, say. The Model Inversion Method (MIM) involves

first identifying a similar asset for which a market price exists and then using the model to determine the discount rate that is consistent with that price. This discount rate can then be substituted back into the *same* model to determine the value of the original asset.

This method has a rich tradition in finance, with perhaps the most celebrated example coming from option pricing. Valuing a stock option using standard pricing methods requires knowledge of the underlying stock volatility, which is unobservable. The MIM estimates this parameter by inferring the volatility level that is consistent with (and implied by) the observed market price of an option written on a similar stock – or on the same stock, but with a different maturity to the option of interest. This volatility estimate is then plugged back into the pricing formula in order to calculate the original option's value. Similarly, so-called forward-looking estimates of the equity risk premium are obtained by inferring the discount rate that yields the current stockmarket value.

## Can you put a number on that?

The approach described above can also be applied to a problem that commonly arises in New Zealand and elsewhere – the determination of the rental rate on commercial land subject to long-term lease. At fixed dates during the term of the lease, the rental rate is required to be re-set, which, unsurprisingly, leads to debate between lessor and lessee as to its appropriate level.

In principle this poses no difficulty, since the theoretical rental rate value is well known. Unfortunately, the formula giving this value depends on the land risk premium, which is

not directly observable. One way to estimate it would be to use a standard pricing framework such as the Capital Asset Pricing Model (CAPM), but such models are intended to apply to highly liquid financial markets and hence are of questionable value for illiquid and lumpy assets like commercial land.

Alternatively, a version of the MIM could be used. In this case, it consists of first restating the rental rate model in terms of land values, and then determining the discount rate that best matches this model to observed market prices for transactions involving land subject to long-term lease (so-called sales of lessors' interest).<sup>2</sup>

Applying this approach to 30 such transactions in the Wellington region yields an estimated risk premium of 12%, several points greater than any estimate that could possibly have been generated by the CAPM. This reflects the liquidity premium in land discount rates not captured by the CAPM, and illustrates the dangers of applying such models in situations they were not designed to address.

For any asset where secondary market transactions exist, the MIM potentially provides a simple and analytically consistent way of shedding light on the invisible.

<sup>1</sup> This article is based on: G Boyle, G Guthrie and N Quigley. 2008. 'Estimating unobservable parameters in asset pricing models: an application to commercial real estate leases' (will be available at [www.iscr.org.nz/research.html](http://www.iscr.org.nz/research.html) later in 2008).

<sup>2</sup> For the statistically minded, this involves identifying the discount rate that minimises the sum of squared deviations between actual prices and those implied by the model.

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