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IN THIS ISSUE

Divvying up the 'Digital Dividend'

The arrival of digital free-to-air television has had pleasant consequences for owners of newer television sets: they can now enjoy high-definition pictures, with higher-quality sound than was previously available through analogue transmission. But the benefits don't stop there. The bandwidth used by the new digital channels is considerably smaller than that required by their older counterparts; the spectrum required to broadcast one analogue channel can support six in digital format. So the impending switch-off of the analogue system will leave a lot of frequencies in need of a good home. Toby Daglish, Phuong Ho and Yigit Saglam delve into the details of the auction processes most likely to be used by the government to re-allocate these frequencies.

An obvious candidate for these frequencies is data transmission over mobile telecommunications networks. With more and more smart devices such as phones, laptops and tablets becoming available and mobile data-transmission growing at an explosive pace, mobile telcos will need new ways of meeting growing consumer demand. Meanwhile, customers look to telecommunications companies to provide them with cheap access to satisfy their voracious data appetites. Firms in a position to deploy the new mobile telephony technologies (designed specifically for using the freed-up frequencies to move very large quantities of data at fast speeds) will want to woo these customers. So if the companies want the customers, they'll be willing to buy access to the spectrum from the government.

This phenomenon of freeing up spectrum by turning off analogue television is not peculiar to New Zealand. Most developed countries are in the process of switching off analogue television and trying to divide up the spoils. Some countries such as Finland have given rights to use predetermined bundles of spectrum to their preferred firms in 'beauty contests' (so called because the process requires bureaucrats to use their own judgement and preferences when deciding how the frequencies will be allocated). In most OECD countries, however, the rights are sold using auctions that not only enrich the government's coffers but also seek to allocate the rights to the uses and users who value them most highly.

A brave new world ... maybe

Auctioning off the spectrum isn't a trivial business. Unlike a 'conventional' auction, such as what's used for estate sales or on Trade Me, the 'digital dividend' auction covers multiple units of spectrum. To make matters more complicated, different users may have preferences for particular portions of the spectrum. This can be

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for technological reasons, or for synergistic reasons (it's easier to use a collection of frequencies which are adjacent to each other than a disconnected set).

The Ministry of Economic Development is considering using a 'clock' auction to solve this problem. A clock auction functions by allowing participants to first register their interest in a set of goods at a given price. If demand exceeds supply, the auctioneer raises prices and buyers then choose whether to stay in or drop out. The process is repeated until demand is less than or equal to supply, at which point the auctioneer closes the auction. An additional proxy round may allow participants to choose the actual units they buy.

We built a model to explore how market participants' quest for market power in the data market might drive their bidding behaviour in the digital dividend auction. Our model allows firms to sell two types of plan: a low data use plan (which can be serviced with existing spectrum) and a high data use plan (which must be serviced with new spectrum). Participants who win large amounts of spectrum can have many customers, while those who win little or no spectrum are condemned to have smaller market shares. We note that as prices increase, firms' demand curves exhibit discontinuities: initially a firm will be keen to have monopoly power; but as prices rise it prefers to share the market, resulting in a sudden drop in demand for spectrum.

We then step back from the downstream market and explore the optimal bidding behaviour of the companies in this auction. By changing the parameters of the model, we can explore the outcomes of the auction for government revenue, market power and social welfare (measuring the amount of actual service which gets provided from the spectrum).

Uncertainty within certainty

One interesting outcome from our analyses are the large numbers of 'mixed strategy equilibria'. Given that units of spectrum are discrete blocks (New Zealand's digital dividend would probably consist of nine usable units), firms may end up being reluctant to reduce the quantity they demand but also afraid that the price may rise because of excess demand. As a result, when deciding whether to drop demand or not, the firms randomise. From a policymaker's perspective, this adds a level of uncertainty, even if the relative cost structures of the auction participants are common knowledge.

I hate you more than I like myself

In the first scenario we explored in our model, one of the firms in the market was more efficient than the other participants. Our intuition suggested that this firm would probably buy most of the spectrum and would end up being a dominant player in the market. Interestingly, this did not happen: other market participants, fearing that the more efficient firm would flood the market with cheap data plans, were happy to stay in the auction – driving up the spectrum cost – in order to keep the efficient firm from buying up the spectrum.[1]

The digital bandit

We also looked at a scenario where one firm is less efficient than the other firms in the market. The outcome is even worse than with one more-efficient firm: the inefficient market participant will 'hold up' the other participants by driving up prices and keeping them from buying as much as they'd like. The result is a smaller market, with not all spectrum being sold.

One solution to the potential 'hold up' problem would be for the government, as auctioneer, to close the auction as soon as demand equals supply (rather than allowing the auction to potentially jump from excess demand to excess supply, which is a problem that arises from the discontinuity in demand curves).

The fear of being caught out holding a collection of overpriced spectrum stops the inefficient firm from holding up the market. However, the net result is that one of the other firms will probably end up holding the bulk of the spectrum. Underutilisation of the spectrum is avoided – but the result is a more monopolistic market.

Trumping the opposition

Lastly, we explored the possibility of some firms currently being constrained by their existing supply of spectrum. In the New Zealand context we might think of 2degrees, a late participant in the mobile phone market, as having a smaller position than the incumbent Telecom and Vodafone.

Not surprisingly, we found that the highly constrained firm is willing to pay more for the spectrum than the incumbents. However, when we considered a case where one market participant holds most of the spectrum, we found that the price the incumbent is willing to pay to keep the smaller players out of the market is higher than what *they* are willing to pay to get in. This is similar to what happened in our inefficient player 'hold up' scenario.

Ace in the hole?

Our model is potentially useful as a tool for understanding the auction process, and a tool to inform policymakers who must decide the rules and initial parameters under which the auction will operate. When trying to decide how to cap auction participants' holdings, or limit prices, having a framework for crunching some numbers is always helpful.

1 Making the firm more efficient does eventually result in the firm getting more spectrum. However, at this stage, the price of spectrum collapses (since the less efficient firms are no longer competing aggressively for it).

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e-tail therapy FLASHBACK

Way back in 2000, before the dotcom crash (the one where the inflated share prices of internet stocks came tumbling down, not when international law enforcement tripped up the Megaupload millionaire) the hottest new thing was 'online-shopping'. While others were still marvelling, Bronwyn Howell critiqued this retail phenomenon with the aid of an economics-tinged cyber-crystal ball. She now revisits her analysis.

Woolworths' grocery shopping website was brand new ... and all manifestations of this i-phenomenon were known as 'e-tailing', with the 'e' short-handing for 'electronic'. This was long before Apple convinced us that everything internet-related must have its name prefixed with 'i-'.

If one believed the claims being made at the time, conventional retailing was doomed. Why on earth would any rational shopper want to run the gauntlet of the supermarket carpark, not to mention being targeted by tearaway trolleys and facing sabotage by chocolate bars at the checkout (all to the dulcet tones of an Irish boy band, or worse) when for the price of a courier home delivery, one could stroll the virtual aisles from the peace (or otherwise) and comfort of one's own home or office, fill the cyber-trolley simply by clicking the mouse, and have it all delivered just when and where you wanted?

Of course, I could not let the inference that 'rationality unconditionally begat foregone conclusions' pass unchallenged. What I discovered when putting a (last-century) economic theory filter over the virtual crystal ball can be read in the October 2000 issue of *Competition & Regulation Times*, and the cartoon commissioned to accompany the article is definitely worth a look.[1] However, for those too jaded to hunt down the original, its main discoveries were that:

- 'Purchasing a grocery item' is just one commodity in the bundle of goods that make up the activity of 'supermarket shopping'.
- Whilst the 'e-' equivalent can substitute relatively seamlessly for the simple act of transacting a purchase, it's not at all clear that there are (or ever will be) acceptable 'e-' substitutes for some of the other components that make up the 'supermarket shopping experience' bundle.

This led to the conclusion that the elements of the supermarket shopping experience that were difficult to substitute electronically (such as being able to determine the quality or fit of items, participating in a social activity, or simply having somewhere to take the kids to divert them for an hour or so) would mean that shopping in person would not disappear – and indeed that it might take on new twists as physical retailers played to the benefits of the 'personal' touch.

The corollary (had I thought of it at the time) is that the items that would most likely come to dominate 'e-tailing' would be those whose quality and fitness could be easily ascertained without a physical inspection, and those where the 'shopping in person' bundle offered few other compelling benefits.

Fast-forwarding to 2012, this seems to have been borne out. Personal shopping still dominates the supermarket segment, although Woolworths is now Countdown. Furthermore, groceries did not even feature in Nielsen's most recent (2011) survey[2] of items most likely to have been bought by 'serious' online shoppers (those making six or more online purchases in the preceding six months). Online shopping is certainly popular: 49% of New Zealanders aged 18 and over were purchasing online by early 2011. And it's growing: the number purchasing six or more items increased by 21% from 2010, and those purchasing eleven items or more grew by 38%. However, the most popular products for online purchase were airline tickets (50% of survey respondents), clothing/shoes/accessories (32%), books and magazines (29%), entertainment tickets (27%) and travel-related services such as accommodation and car hire (24%).

Consistent with the 2000 analysis, the popular e-tail goods are items for which the quality and fit are easy to verify or, in the case of items such as clothing, are able to be returned or exchanged relatively easily: something that's not really possible with perishable grocery items such as milk, meat and fruit. Interestingly, long before online shopping became a feature, many currently popular e-tail items were sold by mail order. So the online transaction simply substitutes for a postal one. What sells well online are also purchases where there is little benefit from social interactions or other distractions; the supermarket may be much more conducive for distracting frazzled toddlers, but you don't want them 'helping' with clothes shopping or international-travel bookings.

And finally – just to reassure those of you who *have* read the 2000 article – I've upgraded to a 2012 version of the economic filter, one that makes fewer predictions. How was I supposed to know that farmers' markets, and not a bevvy of new suburban butcheries, bakeries and fruiterers, would emerge as *the* place to go for sights, smells and tastings of fresh and aromatic produce?

1 'E-tail therapy – cool, but not quite the real thing' *Competition & Regulation Times* issue 2 p3 (available at www.iscr.org.nz/f64,1798/1798_newsletter_2.pdf).

2 http://nz.nielsen.com/news/Shopping_Online_Apr11.shtml

Bronwyn Howell is ISCR's General Manager.

'leftist' governments ARE bad for business

Although governments of the 'left' are typically viewed by economists and the general public as being less business-friendly, formal evidence linking the political orientation of parties in power to their country's economic performance is decidedly mixed. A prizewinning paper[1] from Sasha Molchanov and his co-authors Art Durnev and Jon Garfinkel clarifies the seeming disconnect between party-in-power orientation and corporate performance.

Overall, it's difficult to draw sweeping conclusions from the literature regarding the influence of partisanship on financial or economic outcomes. Depending on the data analysed, stock returns have been found to be higher under either Democratic or Republican presidencies in the US, and another study[2] finds no evidence of a presidential cycle in US industry returns.

The lack of consensus is particularly concerning when economics plays a critical role in the outcomes of elections. Economic issues often take central stage during electoral campaigns, with 'leftist' parties frequently proposing policies that are very different from those of 'rightist' parties, particularly in their expected impact on the business environment. Such policies include stringent labour and environmental laws, higher taxes, and policies that may encourage higher interest rates (which increase the cost of borrowing). Thus, understanding the link between partisanship and economic outcomes is important from a policy perspective.

Finessing the frameworks

Three factors that appear to be overlooked in prior studies may explain the puzzling lack of a consistent relationship between party-in-power orientation and corporate performance.

Factor 1: Not all firms are equally sensitive to government policies. For example, while labour-intensive firms are likely to be adversely affected by stringent labour laws, capital-intensive firms are less likely to be.

Factor 2: The link between ruling party orientation and leftist legislation is sometimes weak (this is documented in the literature and confirmed in our analysis). For example, legislation often regarded as 'leftist' is sometimes enacted under 'rightist' governments.

Factor 3: Much of the existing literature uses a simple dummy variable approach, unambiguously classifying all governments as either 'left' or 'right' and thus ignoring potentially important characteristics (such as coalition governments, or legislative and executive branches being controlled by different parties).

In order to address Factor 1, we posit that leftist legislation has four dimensions and that not all firms are equally affected by such legislation. First, if leftist legislation is more *'friendly' to labour*, then we would expect more-labour-intensive industries to have greater sensitivity to labour-friendly legislation and perform worse under it. Second, leftist *environmental* legislation is more likely to be stringent, adversely affecting highly polluting firms. Third, leftist *tax* policy favours higher rates, and so we would expect firms with higher gross profit margins to experience higher tax bills, although their overall performance (stock returns) may be better. Finally, leftist governments may enact policies that are traditionally associated with higher *interest rates*. Thus, we would expect firms more affected by the cost of borrowing (that is, firms with high leverage) to experience drops in performance when interest rates are increased.

To address Factor 2, we note there is ample evidence of legislation that is traditionally viewed as leftist actually being passed when rightist governments are in power. Such

imperfect correlation between a ruling party's orientation and the policies it implements may be yet another reason for the lack of consistent relationship observed between government partisanship and corporate performance. We address this by analysing only those policies that are explicitly associated with a government's party orientation.

Finally, most extant research on political cycles in economics and finance relies on a simple dummy variable approach to indicate a ruling party's orientation (we have noted this above as Factor 3). While intuitive, such methodology ignores more-complex government arrangements that occur – such as when no party has an outright majority or when no single party controls all government branches. For example, a dummy variable approach would classify ruling-party orientation in the US as 'leftist' both before and after the 2010 Congressional (Senate and House of Representatives) elections, even though the Democrats lost control of the House of Representatives after the election.

To address this, we developed a unique five-point scale. A score of five corresponds to 'left-wing dominance' – that is, a leftist party controls both the executive and legislative branches of government (in a parliamentary system, the leftist party would control more than two-thirds of the Parliament). A score of one would represent the opposite – a rightist party in control. A score of four (or two) corresponds to a lower degree of control by the leftist (or rightist) party; and a score of three represents a centrist government.

In this classification, the current New Zealand government would receive a score of two. The National Party (classified as rightist) leads the ruling coalition; this coalition, however, holds less than two-thirds of the seats in Parliament.

Divining the data

To conduct our tests, we built a sample at the industry level using 57 industries from 50 countries during the years from 1990 through to 2006. We constructed four industry-level sensitivities to leftist legislation.

The first sensitivity measure was *labour intensity*. Leftist governments are often thought to be associated with strict labour legislation, which increases the costs of operation and makes labour-capital substitution more difficult. We measured labour intensity as the ratio of the value of labour inputs to the total value of production inputs. Our results were consistent with our expectations: labour-intensive industries had lower valuations, lower returns on assets (ROAs), and lower stock returns when leftist governments were in power. As for the actual policy measure (rigidity of employment legislation), we confirmed that labour laws are stricter under left governments and that employment-legislation rigidity *explained by ruling-party orientation*[3] has a significantly negative impact on labour-intensive industries' performance measures.

Our second sensitivity measure was *environmental legislation*. Leftist governments are often linked to a tightening of environmental standards. Thus, firms that are less environmentally friendly will be adversely affected by the enactment of such legislation. To compute sensitivity to environmental legislation, we used an index of environmental responsibility based on rankings obtained from MSCI's ESG (environmental, social and governance) database ratings. We confirmed that industries which are more environmentally sensitive experienced worse performance (in terms of ROA, valuation, and stock returns) when leftist parties were in power. When we used the actual policy measure (rigidity of environmental legislation) *explained by ruling-party orientation*, the results were similar: environmentally sensitive industries suffer a drop in performance when 'leftist' parties enact tighter environmental standards.

Our third sensitivity measure was the *corporate tax rate*. Parties on the left of the political spectrum are often viewed as supportive of higher corporate tax rates, which decrease after-tax income and may discourage entrepreneurial activity. We measured tax rate sensitivity using gross profit margin (ratio of EBIT to sales) and found that tax-sensitive industries have lower ROAs and stock returns under leftist governments.

The actual tax rate we used was a five-year effective rate. Even though the relationship between this tax rate and the ruling-party orientation is not statistically significant, the portion of tax rate *explained by ruling-party orientation*, however small it is, has a significantly negative impact on the performance of more-tax-sensitive industries. This implies that even though leftist governments do not always raise taxes, when they do, the impact is significant.

Finally, we considered sensitivity to *interest rates*. Prior research has documented higher interest rates under leftist governments. Because this increases the cost of borrowing, firms with high leverage (a high ratio of total debt to assets) should be more adversely affected by the higher interest rates associated with leftist governments. Our results confirmed our expectations: industries more exposed to interest rate movements have lower returns and value when leftist governments are in power. Interest rates *explained by ruling-party orientation* also have a significantly negative impact on performance of interest-rate-sensitive industries.

Confirming causality

Analysis of the impact of political environment on financial outcomes is hampered by potential reverse causality. Our results established that a government's political orientation has a significant impact on the performance of policy-sensitive firms. However, economic performance has a potentially strong impact on electoral outcomes. Our sensitivity approach analyses industry performance within each country and it is less likely that within-country differences in performance have a strong systematic impact on political variables.

Nevertheless, we explicitly addressed potential reverse causality in a number of ways. First, we controlled for past economic performance by including a number of lagged economic variables. Second, because electoral rules in most parliamentary systems allow for 'called' elections and hence make strategic electoral timing possible, we performed the analysis on sub-samples of presidential and parliamentary systems. Third, we performed a two-stage regression, obtaining a party-orientation index explained by past economic performance. Our results remain robust in all of the above-mentioned tests.

1 This article is based on A Durnev, J Garfinkel & A Molchanov (2012) *Partisanship and Corporate Performance*, which won the ISCR prize for the best paper on financial regulation at the 2012 New Zealand Finance Colloquium. It is available at www.nzfc.ac.nz/archives/2012/papers/updated/39.pdf.

2 B Jacobsen & J Stangl (2007) 'Political cycles in industry returns' *Journal of International Finance and Economics* 1 pp113-130.

3 To establish this, we performed a two-stage estimation. In the first stage, measures of 'leftist' policies (labour and environmental legislation strictness, corporate tax rates and interest rates) were regressed on the measure of leftist-party orientation. In the second stage, we regressed firm performance measures on 'leftist' legislation explained by ruling-party orientation.

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Why regulate banks?

Banks hold an important position in modern economies as their products play a vital role in the everyday activities of households and firms. An efficient banking sector reduces the costs of trading goods and services: both across time (by providing deposit, investment and lending products) and at any point in time (by providing payment services). In this first of two articles,[1] Alfred Duncan explores the benefits and costs of bank regulation.

Banks borrow through on-demand deposits and lend these funds long term. This 'maturity mismatch' is an imbalance of timing that they have to manage and which exposes them to risk. However, the mismatch is valuable to customers who wish to hold on-demand assets but borrow for longer durations, and the vertical integration between deposit and lending products helps banks build relationships which are important for managing and assessing loan risk.

Bank deposits also facilitate trade by providing liquidity: banks offer safe, secure and fast payment services for households and firms. For large transactions in particular, bank payments such as cheques are much more convenient for households and firms than cash transactions.

The flow must go on

The value of banks to the economy is most obvious when the relationships break down. Bank failures are more widely felt than failures of other firms because of the trade linkages that banks provide: they stop trade in its tracks, severely deplete private net worth, and restrict households' and firms' access to credit and investment products.

The propagation of the effects of bank failures through the economy means that when a bank collapses, the social costs felt by firms and households can be greater than the private costs incurred by the failed bank's shareholders and creditors. While these social costs can be dampened by government guarantees of bank deposits and by the central bank's provision of liquidity in crises, both actions reduce the private costs of failure and the incentives for bankers to mitigate risk. In practice, the social costs of bank failure are so high that governments and central banks cannot credibly commit to not supporting vulnerable or even insolvent banks in a crisis. Whether or not there are explicit government supports in place, the expectation of support in a crisis has an effect on the risk-taking behaviour of bank creditors, shareholders and managers.

All firms fund themselves through a mixture of debt and equity. The optimal debt share of funding (or leverage) is influenced by features of the organisational structure and taxation. For most firms, an increase in leverage beyond some level would lead to an increase in the interest rates charged by the firm's lenders. For banks with deposit guarantees (even if implicit), an increase in leverage may not increase the insolvency risk to depositors; rather, it may increase the risks to the taxpayer (and the potential payoffs to shareholders in good times). With depositors not demanding a premium for risk, banks have an incentive to pursue risks and leverage ratios that are greater than what would be socially efficient.

Similarly, most firms would be wary of maturity mismatch between assets and liabilities. Any rise in interest rates would quickly raise their cost of capital and could force them to liquidate assets at large discounts. For banks with central-bank credit lines, the risk of a spike in short-term interest rates is dampened as they have access to the central bank's funds if the market for their deposits tightens up.

Do guarantees regulate flows ... or raise risks?

To the extent that government guarantees and central-bank credit lines reduce the cost of funding for banks, they subsidise leverage and liquidity mismatch, which increases the likelihood of future banking crises. Hence regulation of banks' leverage and maturity mismatch is often imposed with the aim of preventing bank failures.

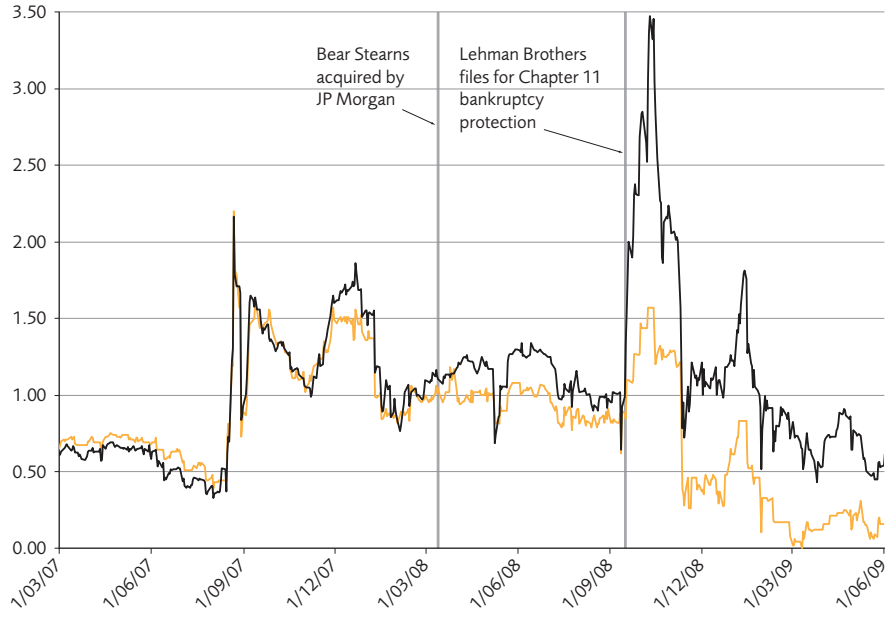
Market discipline is dampened but not eliminated by government supports. Figure 1 shows two key measures of how the credit risk of New Zealand banks was perceived during the recent subprime financial crisis. Each measure is a credit *spread*, measuring default risk by taking the difference between the cost of 90-day bank bond borrowing rates and 90-day government bond (NZ Government bills) borrowing rates. The black line shows the spread associated with offshore borrowing by NZ banks (90-day NZD LIBOR). The orange line shows the spread associated with domestic borrowing by NZ banks (90-day NZD

bank bills). Normally, these measures would be so closely linked that the spread would be negligible: an increase in the borrowing cost in one market would encourage banks to raise funds in the other. However, this link can be disrupted in times of financial stress.

The bankruptcy filing of US-headquartered investment bank Lehman Brothers on 15 September 2008 had dramatic consequences for financial markets. Funds in Lehman Brothers' brokerage accounts (considered by clients to be safe) were instantly frozen and remain so to this date as the financial behemoth and its subsidiaries work through bankruptcy and administration proceedings in a number of countries. A dramatic rethink of the safety of financial firms that had been previously considered sound was translated into large withdrawals from bank deposit accounts, investment bank brokerage accounts, and money market funds in major financial centres. This is reflected in the significant volatile spreads following the Lehman Brothers failure.

New Zealand banks were not shielded from the panic, and the interest rates demanded by foreign depositors in particular jumped to around three percentage points above pre-crisis levels. If sustained, such increases in funding costs force banks to stop lending to households and firms and can lead to recessions.

Figure 1: Credit spreads of 90-day NZD bank bills and 90-day NZD LIBOR over 90-day NZ Government bills (percent per annum)



Source: Reuters Datastream.

Balancing regulation, risk and value

While leverage and liquidity mismatch are key contributors to bank risk, they are also drivers of banks' value.

Leverage and liquidity mismatch are essential for the deposit account products that banks provide to customers. On-demand deposits are useful because they can be readily withdrawn or used for payments, and deposit account activity gives banks information about customers that can be used to better judge their ability to repay loans. The information gathered from deposit accounts makes banks efficient channels of capital allocation, particularly towards entrepreneurs, small businesses and households.

Liquidity mismatch may also impose greater discipline on managers: when debt is on-demand along with deposits, a small proportion of depositors withdrawing their funds can cause a run and force the bank into liquidation.[2] Fewer monitoring debtholders are required to impose discipline on managers. As most bank depositors are uninformed about their bank's financial health, this disciplining role of on-demand debt may be important for reducing risks taken by bank shareholders and managers.

Implicit or explicit government support may encourage excessive leverage and liquidity mismatch, but regulators need to keep in mind the importance of leverage and on-demand deposits for relationship lending and creditor monitoring of bank managers.

Moreover, any *de jure* limits may not even be *de facto* enforceable in many cases. Banks are peculiar in the sense that each bank's individual value is due largely to its information advantages over its rivals. Banks seldom own many tangible assets, and their products are unable to be patented or protected from replication by their peers. In order to make profits in a competitive environment, individual banks must have greater knowledge of the risks and rewards of their products than their rivals do, and they must promote this view with a reputation for soundness and service. A bank that can more accurately gauge the risk of lending to borrowers in a particular market will be able to earn greater profits in that market over the long term than a bank with less information or less-accurate models. Regulations that are dependent on knowledge of the characteristics of a bank's assets may be unenforceable if the bank is able to pull the wool over the eyes of the regulator; not unforeseeable when their profits depend on them keeping this information from their competitors.

Such a package of regulations also needs to be constantly altered and manipulated. The risks associated with lending or borrowing in a given market will depend on the business cycle, terms of trade, and other market-specific developments.

In isolation, limits on leverage and liquidity metrics may reduce banks' vulnerabilities to economic shocks. However, regulatory packages that internalise a greater share of the risks of banking may be more effective at reducing the vulnerability of the financial system. Regulations should compel bank managers and shareholders to reduce risk by aligning their incentives with those of the public. Regulations which simply place caps on observable risk metrics will be less effective, and may reduce the efficiency of the sector.

In the next issue of *Competition & Regulation Times*, Alfred Duncan will examine some particular features of the New Zealand banking regulatory framework.

1 This project was suggested by Professor Lewis Evans, who also provided comments on earlier drafts.

2 CW Calomiris & CM Kahn (1991) 'The Role of Demandable Debt in Structuring Optimal Banking Arrangements' *American Economic Review* 81(3) pp497-513.

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a charitable interpretation

A significant by-product of the past thirty years of economic liberalisation and privatisation has been the increasing share of economic activity undertaken by the 'third sector' – charities and other non-profit organisations. In New Zealand, this is particularly evident in the health, education and social services sectors where many existing (Plunket, IHC, City Missions) and new (primary health organisations, iwi-based enterprises) charities have assumed responsibility for delivering services previously provided by local and central government. But is this sector adequately regulated? Carolyn Cordery takes a close look at the performance of New Zealand's light-handed regulatory regime for charities.

As charities seek to access public funds (by way of donations as well as funding contracts) in order to undertake their activities, they bear many similarities with publicly-listed companies who similarly seek funds from the public (by way of shareholdings). Both must be able to maintain the public's trust and confidence in order to obtain the necessary funds.

Public-interest theory suggests that measures which increase organisational transparency and accountability through reducing information asymmetries between the public and the organisation, and which protect (or encourage) a competitive market for the funds concerned, will lead to a distribution of resources in the public interest. For publicly listed companies, regulatory measures are long-established and broadly consistent across countries. They are contained in instruments such as stock exchange listing rules, company registration processes, takeover codes, and insider trading regulations.

When it comes to charities, however, there is generally a shorter history and less cross-country consistency in the ways in which they have been regulated. The Charity Commission for England and Wales was established in 1853; the Office of the Scottish Charity Regulator, the Charity Commission for Northern Ireland and the Singaporean Charity Council were established almost contemporaneously with New Zealand's Charities Commission in 2005; in Canada and the US, tax authorities register and monitor charitable activity.

Broadly, though, the regulators in these countries are expected to set minimum standards, increase the amount of publicly available information, and enhance comparability across entities. However, compliance cost is an issue – especially for small and medium-sized charities. So charities regulators often take a more light-handed approach than is observed for publicly-listed companies.

A home-grown regime

When New Zealand's Charities Commission was established under the Charities Act 2005, its principal purpose was to 'promote public trust and confidence in the charitable sector' (s.10.1(a)). A second purpose was to 'encourage and promote the effective use of charitable resources' (s.10.1(b)); and a third was to 'educate and assist charities in relation to matters of good governance' (s.10.1(c)). There are further ancillary purposes, but these are the main three.

The Commission's major activities are therefore the registration of charities, the collection and publication of information from annual reports, and education. So the New Zealand regime appears in principle to support the pursuit of increased transparency leading to increased trust and confidence in the sector, and more effective allocation of the scarce resources available. But how effective has the regime been?

Trust me, I'm a charity

If the Commission's activities are succeeding in increasing transparency and accountability, then it might be expected that (over time) the public would place greater trust in charitable organisations. A 2008 survey undertaken for the Commission found that 58% of people had 'high trust' in charities, with only 7% having 'low trust'.[1] By 2010, however, although more people had heard of the Charities Commission (67% of respondents compared with 57% in 2008), only 55% of respondents had 'high trust', which indicates no increase in public trust and confidence over the two years.[2] The Commission responded to this disappointing result by commissioning research into the attributes the public considers make charities trustworthy, in order to encourage better practice.

Charities are required to file annually with the Charities Commission, and the Commission publishes all filings on its website, thereby making a considerable body of information available to the charitable donor and government funding market. Further, it has instigated an 'open data' project so that software developers can mine charities' annual returns. This also achieves one of the Commission's ancillary requirements: to 'stimulate and promote research into any matter relating to charities' (s.10.1(m)). Here, the New Zealand regulator has shown itself to be more proactive than other regulators such as the Charity Commission for England and Wales (which provides a charity's financial information only on demand) and the Scottish regulator (which does not publish data at all). The Charities Commission also performed a valuable charitable purpose itself, when it drew attention to specific Christchurch charities that donors could support for earthquake relief.

The Commission has maintained an active education division. This is an example of its 'compliance' approach[3]: an approach it shares with other charities' regulators. Compliance approaches are flexible and not confrontational; they can also be carried out reasonably efficiently and at a low cost. This may be appropriate if, as the Charity Commission for England and Wales noted, these regulators' roles are 'akin to regulating angels'.[4]

So far so good, but ...

Nevertheless charities have high potential for opportunism, as they lack owners and receive high levels of unreciprocated (non-exchange) contributions. For example US research shows that without regulatory requirements for charities to return financial information, officers and directors receive higher compensation, which reduces the funds available for charitable distribution. In addition, incidences of fraud and scams are high: for example, 86% of respondents in the latest BDO Not-for-Profit Fraud survey considered fraud to be a problem in this sector.[5] Frauds and scams are made easier by cash donations and poor internal controls.

Lax financial-accounting requirements don't help. New Zealand's light-handed approach gives charities six months from their year-end to file a return along with their annual financial statements. Furthermore, filings are accepted without further checking.[6]

International and New Zealand research shows that without detailed checking by the regulator, filings are likely to be deficient. A sample of 300 returns to New Zealand's Charities Commission in the 2010/11 year showed a high rate of filing errors as well as errors in the underlying financial statements: figures missing, amounts being misstated (such as $1 instead of $1,000), and equity information being omitted.[7] Further, while there was a rush to file once a charity received the Commission's reminder letter, 34.1% of charities filed later than the required six months.

The poor filings were not unexpected and cannot be blamed solely on a light-touch regime. New Zealand has maintained a 'sector-neutral' approach to its financial reporting standards, with the Ministry of Economic Development only recently requiring financial reporting standards to be developed for charities.[8]

New financial reporting standards may encourage greater compliance in the sector, but the track record of more than five years as a regulator suggests the Charities Commission's light-handed regime has not resulted in an increase in charities' transparency and accountability.

The Charities Commission has prioritised information, but not information quality: what it provides to the market is flawed. Such inadequate information is unlikely to lead to any increase in the public's trust and confidence. It is necessary for charity regulators to utilise minimum reporting standards, and deterrence as well as compliance methods, to increase the likelihood that charities are accountable and transparent.

Smoke on the horizon

Legislation is currently before Parliament to subsume the Charities Commission into the Department of Internal Affairs. While this might reduce costs, the proposed legislation is unlikely to solve the shortcomings of the current light-touch regime. Furthermore, subsuming the Commission into a government department will undermine its essential independence. Its current form as a crown entity ensures that interest groups (including government, charities and to a lesser extent the public) cannot capture the regulator; it also empowers the regulator to sanction charities' shortcomings by de-registration and, where necessary, legal action. Such assurances and powers are integral to a properly functioning regulatory body, and they are now at risk.

Given the current size and growing importance of the sector in the economy, the risks involved, and the importance of public confidence in enhancing sector performance, an autonomous Charities Commission more in keeping with the model of the Securities Commission would appear to warrant serious consideration.

1 UMR Research (2010) *Trust and Confidence in Charities – Topline report*. Wellington.

2 Empathy & Charities Commission (2010) *The drivers of public trust and confidence: Insight Report*. Charities Commission. Wellington.

3 As opposed to a 'deterrence' approach.

4 A Hind (2011) 'New Development: Increasing public trust and confidence in charities: on the side of the angels' *Public Money and Management* 31(3) p202.

5 BDO (Australia) Ltd (2012) *Not-for-Profit Fraud Survey 2012*. The survey includes New Zealand as well as Australian respondents.

6 In Scotland, the Office of the Charities Regulator does not accept an incorrect filing; it is sent back to the charity.

7 C Cordery & K Patel (2011) *Financial Reporting Stocktake: An Assessment of Accountability through Charities' Filings on New Zealand's Charities Register*. Victoria University of Wellington.

8 Ministry of Economic Development (2009) *The Statutory Framework for Financial Reporting*.

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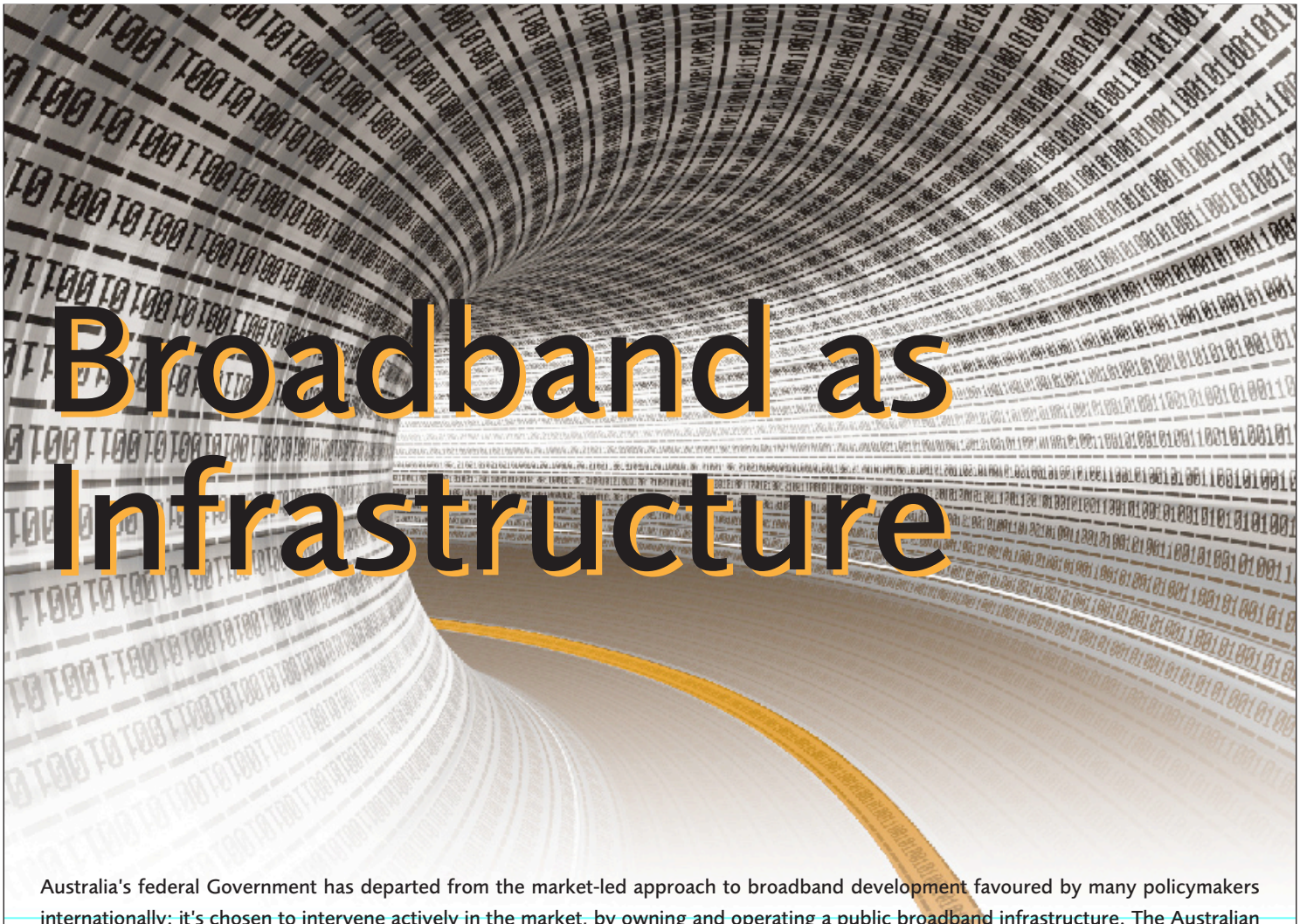

Broadband as Infrastructure

Australia's federal Government has departed from the market-led approach to broadband development favoured by many policymakers internationally: it's chosen to intervene actively in the market, by owning and operating a public broadband infrastructure. The Australian approach (which has important implications for New Zealand's privately provided but government-subsidised Ultra-Fast Broadband Initiative) has been the subject of extensive analysis by Ryerson University's Catherine Middleton. She reports on some of her findings.

Construction of Australia's National Broadband Network (NBN) is now well underway. In building the NBN, the federal Government's objectives are to deliver 'next generation' broadband connectivity to all Australians and to restructure the country's telecommunications industry. It has created a government business enterprise, NBN Co, to build a fibre broadband network to 93% of Australian premises by 2021. The 7% of Australian premises outside the fibre footprint are to be served by fixed wireless or satellite broadband services, expected to be in place by the end of 2015.[1] More than 11,000 Australian premises now have active connections to the NBN and plans are in place to extend fibre coverage to more than 3.5 million premises over the next three years.

If the NBN is completed according to the current Government's plan (an outcome that is far from guaranteed), fixed broadband connectivity across Australia in the future will be provided by a single ubiquitous next-generation broadband network. NBN Co will operate this monopoly network on a wholesale-only basis and provide non-discriminatory open access to all retail service providers. An agreement between NBN Co and incumbent telco Telstra allows NBN Co to use Telstra's infrastructure where possible in constructing the NBN and requires Telstra to decommission its hybrid fibre coax (HFC) broadband network, migrate its fixed broadband customers on to the NBN, and structurally separate its operations. The country's second largest telco, Optus, will also decommission its HFC network and migrate these customers to the NBN. As the NBN is rolled out, the copper telecommunications 'last mile' network will be decommissioned.

As a result, once the NBN is completed, Australians will no longer have a choice of fixed broadband network infrastructures. Instead, any entity wishing to provide a service over a fixed broadband network in Australia will do so using the NBN.

The federal Opposition argues that the NBN approach is flawed, as faster internet access can be provided more quickly by encouraging network operators to upgrade the two existing HFC networks and extend fibre networks 'to the curb' rather than by building a government-owned 'fibre to the premises' (FTTP) network.[2] Upgrading is viewed as a prudent strategy, given limited demand to date for the higher speeds that FTTP can offer. Indeed, NBN Co's own forecasts suggest that the majority of household subscriptions to the NBN in its early years will be for the lowest-available speed tier (which offers 12Mbps download speeds and 1Mbps upload speeds). The fact that download speeds in excess of 12Mbps are already available to millions of premises across the country but take-up rates are low reinforces the conclusion that demand for faster connectivity is not strong. It is also frequently noted that as increasing numbers of Australians subscribe to mobile broadband services, mobile connectivity (despite its limitations) may become a substitute for fixed broadband connectivity. With customers migrated on to the NBN's FTTP network, competition in network provision will be eliminated and functional copper and HFC networks will be abandoned.

Beyond faster speeds

If the Government's objective in building the NBN was simply to provide faster internet speeds, it could have adopted the prevalent international approach of encouraging the private sector to upgrade existing networks. As is happening elsewhere in the world, competing providers would be expected to respond to consumer demand for faster internet services. However, this approach would leave the ownership of these upgraded broadband networks in the private sector and would not easily provide the open-access broadband infrastructure that is a defining characteristic of the NBN. In an environment with multiple private broadband networks, entities that wished to deliver services to Australian premises using broadband would have to build their own networks or negotiate access to existing networks. Potential service providers would face a patchwork of connectivity, differing network characteristics, and the possibility that network owners would make it difficult for competitors to use their networks. Instead, the Australian Government has chosen to adopt a fundamentally different business model in deploying next-generation broadband infrastructure.

By operating the NBN on a wholesale basis with the requirement to provide open access on a non-discriminatory basis to all service providers, the NBN becomes public infrastructure that provides uniform, ubiquitous connectivity throughout the country and facilitates competition among service providers. Companies currently offering internet access can continue to do so using the NBN, even though they no longer own or operate the physical network infrastructure used to deliver these services. More than 30 companies are already certified as NBN service providers and offer residential internet subscribers 100Mbps download and 40Mbps upload speeds in their top-tier packages.

Dealing with the digital divide

The NBN is not just about faster internet speeds: it can also make it possible for innovative data, video and voice applications to operate directly over the broadband network, allowing those who do not currently have internet access to receive broadband-enabled services in their homes and businesses. For instance, services can be designed for use without a computer (perhaps connecting to a television set or a purpose-built appliance) so they will be accessible to the 20% of Australian households that do not currently choose to purchase internet access. New applications can extend the potential benefits of broadband connectivity to all households, not just those that are interested in faster internet access. For instance, services are being developed to help prevent falls among the elderly, and to provide in-home monitoring and consultation with healthcare professionals for people with chronic illness. Videoconferencing will support telehealth and e-learning and will facilitate communication between government agencies and those who use their services, improving on what is already available through current networks.

With the NBN in place, providers can develop services in the full confidence that Australians will have the high-quality reliable broadband needed to access such services, and in the knowledge that it is possible to deliver services to anyone with a network connection anywhere in the country. Although premises outside the fibre footprint will not have access to the higher-speed offerings available through the FTTP network, the NBN's fixed wireless and satellite connectivity will offer much improved upload and download speeds compared to what is currently available, thereby supporting a wide variety of applications and services.

Opening the broadband door

When understood as a uniform and ubiquitous platform for broadband service delivery, the NBN appears to have the potential to offer much more than faster internet service. The Government envisages the NBN as 'a significant piece of Australian critical infrastructure that will underpin the provision of a range of essential services to the Australian community'.[3] Although broadband networks have for many years been described as infrastructure, with a long list of anticipated benefits ascribed to their use, to date there are relatively few examples of broadband networks that realise this potential. The NBN's open-access approach fundamentally changes the nature of broadband in Australia: it removes the ability of private-sector players to control network access or influence the conditions for broadband service delivery and makes it much easier to enable widespread use of the next-generation network and realise a wide range of benefits from broadband deployment.

The Australian approach is contrary to the market-driven model favoured internationally. Services that can be delivered only on the NBN platform are not yet widely available; nor are the possibilities for this new mode of service delivery widely understood among potential service providers. Business models for service delivery independent of internet access are unclear, and demand for new broadband-enabled services is uncertain. Much education and training will be needed to ensure that individuals can actually use the services on offer to them. Constructing a nationwide FTTP network requires an enormous engineering effort, and the scale of the NBN is unprecedented internationally. There are concerns that NBN Co, as the monopoly owner of the network, will impose conditions that are unfavourable to the service providers reliant upon the NBN infrastructure, and that the regulator will be ineffective in ensuring favourable terms of access. Many issues must be addressed to ensure that the potential benefits of broadband as public infrastructure are actually realised through the deployment of Australia's NBN.

The Australian approach aims to build a high-quality public broadband infrastructure that will underpin the delivery of a broad range of services, accessible to all Australians. But this approach requires a different way of thinking about broadband, one that focuses on broadband as fundamental infrastructure to support service delivery, rather than as a network that just offers internet connectivity. This model has not been deployed on a national scale and there are many unanswered questions as to how (or whether) it will work. It is a bold strategy, and one that will be closely watched internationally. There will be many lessons to be learned from the Australian experience, regardless of the final outcomes or whether the network is completed according to the current plans.

1 Details about Australia's national broadband network are available from NBN Co's website (www.nbnco.com.au) and from the Government's NBN website (www.nbn.gov.au).

2 The Government and Opposition agree that fixed wireless and satellite services will be required to extend broadband connectivity to areas that are not within the existing broadband footprint.

3 Quote from the Government of Australia's 'Statement of Expectations' for the board of NBN Co, December 2010.

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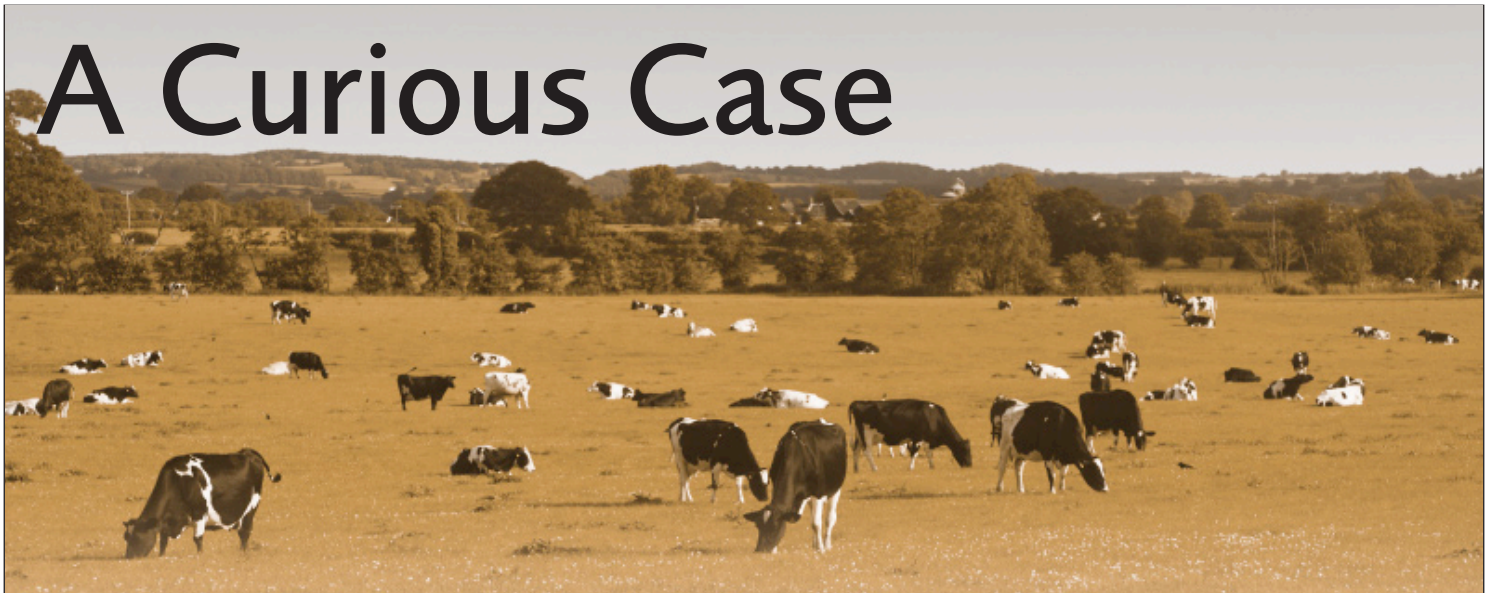
A Curious Case



Principled decision-making in any context requires that the decision's outcome (the 'factual') be assessed against the alternative outcome (the 'counterfactual') that would have ensued had the decision not been taken. Bronwyn Howell investigates the curious case of the 'Crafar Farms Counterfactual'.[1]

Conceptually, the analytical processes to support decisionmaking appear straightforward. In practice, however, this is rarely the case: almost all decisions are made under conditions of uncertainty. Whilst there is always some doubt about what will occur if a particular decision is taken (typically accounted for with sensitivity analysis), the counterfactual is also forward-looking – and so it cannot be taken for granted that the status quo at the time a decision is made will prevail unchanged into the future.

These features of decisionmaking were highlighted in February, when the High Court overturned the initial decision made by Ministers Jonathan Coleman and Maurice Williamson under the Overseas Investment Act 2005 to approve Pengxin Corporation's purchase of the Crafar farms. Justice Miller found that, in advising the Ministers, the Overseas Investment Office (OIO) had wrongly used the status quo of the Crafar farms remaining in their current dilapidated state as the counterfactual against which to assess Pengxin's proposal. As the farms were in receivership and sale was inevitable, Justice Miller considered that in a forward-looking counterfactual any purchaser would make the investments necessary to bring the farms back into full production. Thus, he determined that the sums proposed by Pengxin for this purpose could not be considered part of the benefits brought to the New Zealand economy by sale to a foreign interest. This led to the much publicised conclusion that the benefits of the deal had been vastly overstated, and the decision being returned to the Ministers for reconsideration.

When reconsidering using the forward-looking counterfactual for the sale of the farms to a New Zealand purchaser, the OIO found (and the Ministers agreed) that the Pengxin offer would still lead to substantial and identifiable benefits to New Zealand; and approval to proceed was granted on 20 April.

However, the case has raised some interesting questions about what the appropriate counterfactual should be in cases where Ministers or other appointed decisionmakers have the power to grant or decline permission for commercial ventures to proceed. The factual is unequivocably what will occur if approval is given. But is the (forward-looking) counterfactual 'what could reasonably have been expected to occur if the transaction in question not been proposed' as suggested by Justice Miller in the Crafar farms case, where the counterfactual to the Pengxin proposal was taken as an alternative (New Zealand) purchaser making an offer? Or is it 'what would ensue if approval for the transaction in question is declined'? The distinction is not trivial.

The crux of the matter is whether the decision itself will alter expectations regarding future transactions: in which case the appropriate counterfactual is what will occur if permission for the proposed transaction is declined. The Pengxin/Crafar example again illustrates this.

Pengxin's offer for the Crafar farms was nearly forty million dollars higher than the price indicated by the consortium seeking to have the Ministers' approval overturned. Presumably this would be the best offer for the farms from a New Zealand purchaser. As Pengxin tendered for the farms in an open-sale process, its price reflects the value of the business to the highest-valuing prospective owner. If the Ministers declined the Pengxin offer, then the business would be sold at a lower price to a lower-valuing (New Zealand) owner. This would have a consequential depressing effect on the market value of all similar businesses (market values having adjusted upwards in response to information about Pengxin's price).

Although lower-priced farms might be attractive to prospective buyers, a decrease in values is costly to all existing farm owners: they now anticipate receiving less when selling and can borrow less for capital improvements. Such losses would be taken into account if the counterfactual was 'declining the transaction'. By comparison, under Justice Miller's counterfactual (what would have occurred if the Pengxin bid was never made), any increase in overall market values arising from selling to the highest-valuing prospective owner will be omitted from consideration. (This is because the Overseas Investment Act explicitly excludes any price premium paid by a foreign purchaser from consideration in the 'factual' case.) Consequently, the benefits arising will likely be substantially understated if this counterfactual is chosen.

As the Crafar farms case shows, great care must be taken when selecting a counterfactual. Getting it wrong could be very costly.

1 For more detail, see *Comments on the Crafar Farms Counterfactual* (available at www.iscr.org.nz).

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