



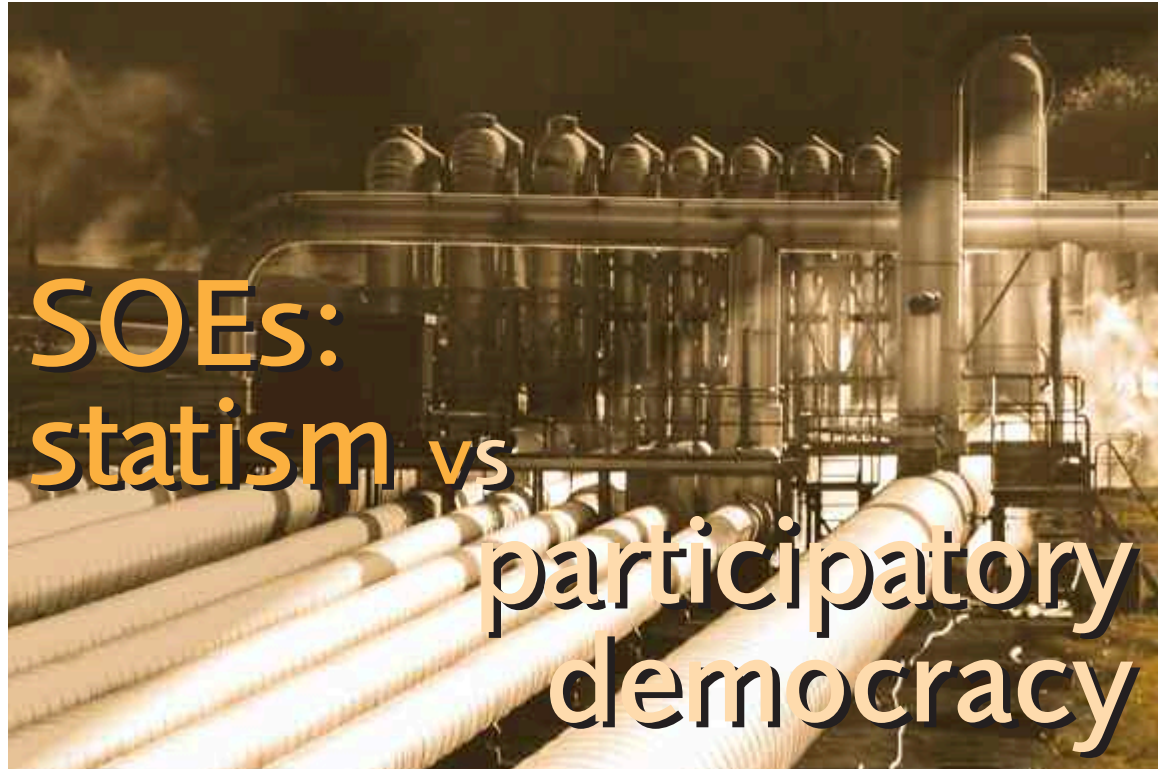
COMPETITION & REGULATION TIMES

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In the 1980s and 1990s a number of New Zealand government departments were transformed into state-owned enterprises (SOEs). Established with the objective of being good businesses, the SOEs were given a 'commercial' organisational structure and placed at arms length from political management. The objective was successful: as SOEs, their productivity improved markedly. Now the current Government has announced it's considering a partial sale of the energy-sector SOEs, with preference likely to be given to Kiwi investors. Lewis Evans, who's been observing SOEs for some years, believes this approach is fainthearted. He argues that opening up ownership of all SOEs to New Zealand citizens could improve both the performance of the SOEs and the ability of citizens to influence them – and that this would be a form of participatory democracy.

In the participatory democracy model considered here, the Government' would retain a predominant ownership interest (51%) in each SOE and the remaining ownership interest would be held by the public. Decisionmaking by the board, including board appointments, would reflect this division.

This is a form of participatory democracy because interest in the activities of these companies and their strategic direction, as well as responsibilities for their performance, would be shared by the Government and the public. This general form is illustrated, in principle, by Air New Zealand –

although the public's share of this company is small (of the order of 20-25%). It differs hugely from the present approach of 100% ownership by the state: under this 'statist' approach members of the public are denied participation and thus have no interest in SOE activity except in the narrow dimensions of what the SOE delivers – for example they have interest in the price of electricity but not its determining factors.

Opening up the black box

We do not know how the SOEs are performing. As SOEs, they provide more information than they did as

government departments; and they are monitored by a state entity – the Crown Ownership Monitoring Unit (COMU) within the New Zealand Treasury. But the information provided, and the analysis of this information, is weak.

There is no independent competing analysis of the SOEs' performance. For example, a number of them have engaged in commercial activities (investments) in other countries: who has the interest, ability and knowledge to assess these? The SOE boards will monitor the investments; but they have approved

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them and thus have their own interest in them. And who is analysing and reporting on these boards' performance and strategies?² COMU may be; but it is just a single analyst – and one with a principal, the Government, that may have various objectives for SOEs and a peculiar view of what constitutes commercial activity and risk.

Furthermore, what is the process by which a board or an SOE's strategy is influenced, given that the SOEs and their sole monitoring unit are state-held entities? Monitoring of the SOE boards would be improved under participatory democracy.

Under the participatory-democracy model, SOEs would be listed on the New Zealand stock exchange – and so, to meet the requirements of the stock exchange rules, they would have to reveal more information than they currently do. More importantly, a variety of analysts would have a direct interest in monitoring, analysing and reporting on all SOE activities, for this is required by their own investment activities and that of their clients. It means that a diversity of views about SOE strategies and performance would be expressed and that the views of these investors would influence SOE decisions. The result would be more and better-quality information available to owners and the general public. It would provide greater and better-informed scrutiny of SOE decisions, and apply pressures on SOE boards and management that would improve performance. Selection of board members would be reflected in the share price: this

would in turn provide feedback to shareholders (including Government-appointed shareholders) and influence shareholders' future board selections. In this way analysts and the public would have influence.

Participatory democracy would shift the balance of newspaper reporting on SOE-dominant industries to a more informed and balanced account of industry issues. At present, the large share of the electricity market held by SOEs means that the public might just as well consider their only interest to be a low price: commentary focuses on the electricity price (in isolation from any relevant causal factors) and on the views of lobbyists. Direct interest by members of the public would yield ongoing evaluation and discussion of the industry – as occurs now with Air New Zealand – and this would likely alter perceptions of the industry.

In addition, the further information revealed through analysis and the value of shares would improve regulation. In the case of Transpower, for example, the absence of traded shares means that it is very hard to assess the value of the company and its cost of capital (an important determinant of allowable regulated prices).

Share valuation would also provide useful information for the assessment of the effects of regulation.

Broader investment options

There are other benefits from the participatory-democracy SOE model. It opens up a dimension of capital-raising separate from

loan finance – and one that is not tied to the Government's balance sheet. Indeed, one way to move from the present arrangement to participatory democracy is to require SOEs to raise capital for new projects by issuing shares to the public. One likely candidate for this is the electricity industry, where significant quantities of additional capital will be required in the future for substantial and socially desirable capital investments. The issue of such capital would also convey information about a range of analysts' assessments of the viability and desirability of these projects: if the projects are not well regarded, capital will prove more difficult to raise. For members of the public the participatory-democracy approach would open up opportunities for saving and managing risk that they now do not have. It would improve the offerings of the New Zealand sharemarket and its liquidity, which the Capital Market Development Taskforce of 2009 identified as very desirable.

The points made about participatory democracy apply to the public's holding a significant number of shares in SOEs – and the same points apply whether shares are held directly by members of the public or through investment vehicles such as superannuation funds. They do not all apply, however, to shares held by entities whose actions are unaccountable to the public. The New Zealand Superannuation Fund (NZSF), for example, is a purely state-owned organisation not subject to meaningful public monitoring and the consequent disciplines on its board. If it were to hold SOE shares (particularly a significant number), this would add an extra monitor; but the monitoring would be done (again) by a state-owned entity. Public and investor interest in SOE performance would be missing, as it is now.

The position of the Government

Why is it desirable that the Government retain a controlling interest in the SOEs? After all, the above arguments apply with even more force to companies with minor or no state-

Statism and Participatory Democracy

Statism and participatory democracy are terms with various shades of meaning in political and philosophical literatures. The primary distinction is that **statism** has the state as an organic being with extensive dictatorial, economic, political, and related powers (and the importance of individuals and associations is their contribution to these powers); **participatory democracy** requires opportunities for all members of groups to make active contributions to a wide spectrum of decisionmaking, and seeks to broaden the range of people who have access to such opportunities.

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ownership interest.³ One reason is that a significant ownership interest provides the Government of the day with an incentive to ensure there is a reasonable commercial operating environment in New Zealand. In short, government coffers gain from well performing SOEs and this places the benefits of good performance in the commercial world before political interests. (Some elected New Zealand Governments have had limited commercial expertise among their members: the required communication between SOEs and the Government has transferred knowledge of commercial operating environments to politicians in a way that would not have happened otherwise.) In addition the participatory democracy approach reduces, but does not eliminate, the conflict that the Government presently has with being both the regulator of commerce and the recipient of SOE profit.

These are reason enough for the Government to hold a high level of interest in SOEs. But there is one other, rather more controversial, reason. It is that with a holding of 51% the Government is the final decision-maker. In the participatory-democracy model's board, the Government will be informed by other board members and by share-price performance – but it holds the power of veto. This makes it most unlikely that any other very large entity (foreign or otherwise) will have any interest in acquiring a significant shareholding: why acquire a large interest if it does not yield commensurate power in setting strategies (and so on). Even if a large entity did acquire a significant shareholding, it would be unable to gazump the Government's voting power. The 51% shareholding preserves the presence of participatory democracy. In large economies, a reasonable commercial environment and domestic investment/saving opportunities for the public might arise with a negligible share of state ownership; but not in New Zealand, which has a very isolated and small economy.

Not a slippery slope

What are the 'cons' of the participatory-democracy model, relative to the present arrangement? They are hard to find. Critiques of the sale of SOE shares rest on the claim that it entails the loss of control of strategic assets. The term strategic is open to conjecture; but the phrase would seem to mean that the state loses control of the SOE's business, even to

the public. Plainly the participatory-democracy model does not take control from the state. Nor does it provide other large investors with the right to take decisions in their own interests. This was a concern, to some, about particular 100% privatisations of 20 years ago. It would not arise with the participatory-democracy approach suggested here.

The present form of SOEs is not an extreme form of 'statism': the SOEs have a corporate structure and are required to be successful businesses. Nevertheless, the present form excludes a public participation that would almost surely improve SOE performance and advance other desirable ends. The SOE model has been stagnant. It may be the time to advance to a standard model of participatory democracy – and also to start thinking about applying this model to a wider range of government and semi-government entities.

- 1 In this article, "the Government" means any given Government of the day (in New Zealand). It does not mean the current administration.
- 2 There may be some limited debt-holder interest in the performance of present SOEs.
- 3 This is why the proposal that the Government retain an ownership interest in its present entities is not a recipe for government acquisition of an ownership interest in wider business.

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New Year Honour for Professor Lewis Evans



ISCR's founding Executive Director Professor Lew Evans's contribution to education was recognised with his being made an Officer of the NZ Order of Merit (ONZM) in the New Year Honours list. This award not only acknowledges his research-led teaching at Victoria University of Wellington, but also his contribution to the wider business and academic communities – as a lay member of the High Court and on the Ministerial Review of the Electricity Market and many other expert committees and panels. It also recognises the important role Lew played with the original ISCR members in founding the institute and leading it through its first seven years as Executive Director, as well as his ongoing involvement as an ISCR Distinguished Research Fellow.

Congratulations, Lew, on your richly-deserved award.

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IMMEDIATE



Is FAST BROADBAND really worth the SUBSIDY?

In the last issue of *Competition and Regulation Times*, Mark Obren surveyed the literature on likely productivity gains from investment in ultrafast fibre-based broadband networks: he found the theoretical case to be highly complex and gains likely to be very much less than what's frequently claimed.¹ Here Simon Vose reviews a recent international study that examined the quality of the evidence for substantial government subsidies of ultra-fast broadband networks to nearly every home in the country.²

Faster internet access via fibre-to-the-home (FTTH) networks is regarded by many governments as an economic panacea, giving first-mover countries a competitive advantage and providing the opportunity to significantly boost productivity. The functionality of an FTTH network stems from the volume and speed of data that can be transmitted (up to and beyond 100 Mbps in up- and down-loading). Potential productivity gains from an FTTH rollout would be shown through the development of high-value applications which could not be delivered by another mechanism – meaning that there would be significant returns from fibre's greater consistency and faster download and upload speeds. Fibre advocates argue that the accrual of benefits arising from the deployment of many new applications in healthcare, education, electricity ('smart grids'), television and transportation will be crucially dependent on the rollout of FTTH networks.

However, the credibility of such claims rests upon the extent to which the benefits depend solely upon the data transmission speeds of FTTH networks. The case for any investment in faster networks (whether it is by government or other parties) must rest solely upon the *incremental* benefits arising from the faster network alone. The failure to distinguish in the business (or policy) case between incremental and average benefits, or the extent to which the benefits rely upon application and not network-capacity factors, may result in costly over-investment or over-early investment in a subsequently superseded technology.

Faster isn't better

Faster networks may be technically superior. But given their high costs of deployment and the nature of the applications used on them, it does not necessarily follow that they will be the most economically efficient. Nor can it automatically be assumed that they will

become the dominant technology. If similar benefits could be derived from applications using already existing networks (such as the fast networks already linking business premises, or the widely deployed but slower ADSL and cable networks already reaching residential addresses), then the benefits cannot be used unquestioningly to support the case for additional FTTH network deployment. Furthermore, such benefits cannot be used to justify subsidising a new technology to a position of dominance when the crucial factor yielding the benefits is not the network itself, but the yet-to-be developed applications – which often require substantial additional investments (including large social or systems changes). A substantive case would need to be made, indicating that the benefits would be unable to be realised on existing networks or on networks specified to a lower capability than FTTH networks.

Parallels can be drawn between the calls currently being made for government-

subsidised FTTH simply on the basis of its speed and historic (costly and flawed) subsidy of other faster frontier-technology transportation methods. As Kenny and Kenny have identified, 'all else equal, faster is better – surely. But faster technologies don't always triumph; think of passenger hovercraft, maglev trains, and supersonic airliners ... Concorde (if it hadn't retired) would still be the fastest passenger aircraft today, having first flown in 1969 ... It turned out that the incremental benefits of speed to most customers were not worth the extra cost.'

So how credible are the assessments of the benefits anticipated to accrue from large government network-subsidies? Disturbingly, Kenny and Kenny found many instances of benefits accruing from standard broadband or even dial-up internet access forming the substantive FTTH investment case. Moreover, some alarming individual instances of implausibly exaggerated (or possibly even mendacious) claims were uncovered.

Amongst the most egregious was Kevin Rudd's claim of productivity gains in the order of 78% to 85% from investment in ICTs in support of his government's A\$43 billion Australian NBN network – a figure which it seems is based upon high-end (not average) estimates of productivity gains arising from all technological factors (not just ICTs) between 1984 and 2002 – long before broadband was a significant factor, and even before the effects of the internet could be meaningfully detected. However, many other cases rely upon benefits accruing from applications in health, electricity smart-grid projects, education and telecommuting that either do not require ubiquitous FTTH deployment or involve other costs which have, conveniently, been excluded from consideration.

It's not the fibre

Three common misattribution 'mistakes' are found to result in overstatement of FTTH benefits.

First, the application benefits cited are often achievable using basic broadband. Take, for example, remote monitoring for healthcare. A 2009 report advocating an FTTP network in Seattle argued that remote home monitoring through increased broadband availability might have avoided 33,754 inpatient admissions that year. However, this figure was extrapolated from a 2000-2002 study measuring the benefits

of remote monitoring which used dial-up internet and instamatic cameras. Furthermore, a separate 2008 Australian study found the provision of basic broadband enabled videophones to substitute for nurse visits for medication. It is clearly misleading to count anything other than the incremental benefits to these extant applications from running faster on fibre in the investment case.

Likewise, it is argued that fibre will enable 'smart grids' that allow electricity consumption to be smoothed, reducing peak demand and in turn the need for new power plants. However, the upload speeds required for smart meters are far less than the capacity provided by fibre. Between 2001 and 2005, there were 30 million smart meters installed in Italy; their operation relied on existing copper and mobile networks. In order for the FTTH rollout justification to rely upon advances in this sector more evidence is needed of smart-grid applications that can operate only on fibre.

Second, the benefits accruing from fibre will often depend on large and costly social (or systems) changes that are independent of FTTH. For example, in healthcare, remote home monitoring is targeted for the elderly – one of the demographic groups least likely to be online. Even if medical efficiency gains are to be had through fast fibre to the homes of the elderly, there will be high (and possibly insurmountable) adoption costs from familiarisation, training and ongoing technical support.

Similarly, the belief that FTTH will allow greater telecommuting to occur (with a positive effect on congestion and the environment) ignores other factors that are more influential. For example: some Nordic states already had 17% of the population telecommuting in 2000 when fibre penetration was nil, yet Korea has less than 1% despite having a fibre network for close to a decade. So, yes, FTTH may have a small impact on telecommuting at the margins. But other cultural, economic and geographical factors are more important – which means that fibre is neither necessary nor sufficient for telecommuting to exist.

Counting the benefits of such applications, but not their additional costs, leads to overstatement of the case for FTTH.

Third, many of the benefits stated don't require a full rollout of fibre to the home. Some medical applications such as remote surgery,

radiology, dermatology and cardiology may benefit from fibre connections linking medical practitioners and hospitals. Similarly, it is argued that there are educational benefits stemming from ultrafast broadband being accessible through schools. However, in both situations the benefits from fibre are site-specific within education and health: they don't depend on access to individual homes or entire neighbourhoods. And many schools, medical clinics and hospitals have already invested in fibre connections in order to avail themselves of such applications – long in advance of the ubiquitous FTTH rollouts.

In the absence of compelling fibre-dependent health, education and smart-grid application benefits, it would appear that that high-definition video-on-demand and other entertainment applications remain the predominant source of legitimate benefits currently bolstering the case for government subsidy of FTTH. However, even studies that anticipate massive concurrent demand for internet capacity within a household find the required internet speeds remain a fraction of the capacity of fibre – and the legitimate supporting benefits are marginal and not average ones, as most of the population already has access to high-definition video content through satellite or cable transmission and rental libraries.


Furthermore, existing broadband networks are already capable of supporting many video-on-demand applications (as attested to by the vibrant markets for purchasing, and illicitly downloading, of discretionary content).

Although there is always a chance that a high-benefit and fibre-dependent 'killer app' will emerge after the event and so justify large subsidies for FTTH network deployment, any spending predicated on such hopes is not an 'investment case' but a 'gamble'. As most of the FTTH subsidy cases offer better support for standard broadband investment than for funding the fibre frontier, current claims for subsidy are perhaps targeting the wrong network.

1 'Bagging Broadband Productivity' *Competition & Regulation Times* issue 33 pp4-5.

2 Robert Kenny and Charles Kenny (2010) 'Superfast: is it really worth a subsidy?' *Communications Chambers*, November (available at http://charleskenny.blogs.com/files/overselling_fibre_1127.pdf).

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Does the dog wag the tail or ... ?

Financial markets are always coming up with new products that financial economists spend a lot of time trying to figure out how to price. In asking what a fair price is, economists sometimes find it hard to tell whether they're being positive or normative: are they describing the prices they see in the market, or are they telling the market what they should be? Toby Daglish and Lyndon Moore ponder their dilemma.¹

Evidence on causality is rather mixed. Many people would point to the development of options markets in the US after Black and Scholes' seminal paper as an indication that academics' ideas on pricing have a big impact on markets, but other investigators have shown that prices of options in the early 20th – or even the 18th century – were alarmingly close to the Black-Scholes formula.

In this article, we try to shed some light on how pricing has evolved for the grandfather of all derivatives: futures contracts. Trading forward has been around at least since early Babylonians decided that a price could be negotiated today for goods to be delivered at a future date. The question is: what should the price we pay today for future delivery be? Academics were still wrangling about how this price should be calculated during the 1930s, with John Maynard Keynes being one of the leading lights in the area. We now know (as Keynes did) that futures prices are linked to spot prices by opportunities for arbitrage; but at the time, many academics and commentators felt sure that relative preferences for risk between buyers and sellers must have played some role in the pricing.

The tricky thing about looking at futures pricing is that the underlying securities are

often very messy. Traditionally, the US and other western countries have focused on trading futures contracts on commodities: wheat, oil, orange juice, and even (more recently) electricity. The complexity of dealing with such bulky underlying securities makes pricing challenging: the futures price will depend on how much the commodity costs to store, and how useful it is to have an inventory of that commodity. By contrast, futures on stocks should be easier to price, since all we need to know are interest rates and dividends. The trouble is, trading futures on financial securities began in the US in the 1970s, by which stage Keynes' ideas were well understood; so we won't get much of an idea how the market would function without a formula by looking there. Instead we have to look to the Far East, to Japan.

Tale of the Meiji

The Japanese have had a long infatuation with futures contracts. Prior to the Meiji restoration, samurai and peasants in feudal Japan received their pay (and paid their taxes) in rice. Of course, no-one can subsist on rice alone, and it's rather difficult to save or borrow in rice. So the merchant class provided a useful service, buying and selling rice, and allowing the other social orders to transact more easily. It wasn't long before a flourishing rice market gave birth

to a lively futures market, where rice prices for subsequent harvests were negotiated. The early-18th-century Dojima rice market was a world leader in this area, and had many institutions of a modern futures market.

When the Japanese started their stockmarkets in the 1870s, it's not surprising that they borrowed a few ideas from the Dojima rice market. In particular, shares almost immediately began trading forward. It was more common for a Japanese share trader to agree to buy or sell shares at the end of the month than it was to buy or sell in the spot market, and their futures market was considerably more liquid than the modern-day OneChicago market. The Japanese certainly liked futures contracts, but were they pricing them correctly?

We collected data from the *Japan Times* newspaper from the 1920s, just prior to Keynes' research, and looked at whether the Japanese futures prices were consistent with what we now know to be correct prices. Comparing the list of firms (see Table 1) traded in 1920s Japan with those traded in modern-day Chicago shows a striking contrast between the two economies' industrial structures. The Japanese market was dominated by textile, sugar and transportation firms. In contrast, the modern futures market is dominated by technology and financial firms.

Smarter today

Could a trader with modern knowledge of derivatives have made money in the Tokyo stock exchange of the 1920s? At first blush, the answer is yes. If we know one futures price, we can calculate what any other maturity futures price should be – and thus calculate a pricing 'error' or amount of money which could be made by arbitraging the two prices (effectively buying at the low price and selling at the high price, and borrowing or investing in the interim between the two maturities). Looking at average pricing errors in 1920s Japan, we find that Japanese futures were on average mispriced by 1.7%; and when comparing one-month futures prices with three-month futures prices we see that mispricing was of the order of 2.6% (see Table 2). So maybe it would have been possible to fleece a Tokyo trader if transaction costs were low enough. However, if we examine the modern-day OneChicago exchange we find these numbers are 1.9% and 2.0%, respectively. And for modern-day Chicago, we do know transaction costs: they're of the order of 0.25% (mostly because of bid-ask spreads). So it seems there were probably arbitrage opportunities in 1920s Japan, but they still exist today. There must be something wrong here, but what?

Theory works

The answer is that by looking at the newspaper's prices, we can't actually tell when during the day the prices we see were observed. Newspapers generally report the last trade of the day. If I buy futures in the morning and you buy futures in the afternoon, the prices will be different. If there's been good news for the company in question, prices will have gone up; but if there's been bad news, prices will have gone down. So some of our mispricing could be due to the two futures prices we're comparing being asynchronous, and the extent to which this is a problem will depend on two things: how often the shares trade, and how volatile the stocks prices are. We used Monte Carlo simulations to calculate how large we'd expect the pricing errors to be, given the mismatch between trade times, and removed this from the raw errors we calculated previously.

The result is quite striking (see Table 3). Our Japanese errors fall to 0.7% (and 1.4% for the one-month vs three-month arbitrage, our former cash cow); the modern US errors are

now reduced to almost nothing. Keynes and his friends informing the world how the market *should* work has led to prices being more consistent with theory.

It seems, therefore, that academic work *does* have an impact on the market. Even though futures markets are far older and futures arbitrage is relatively straightforward (compared with options arbitrage), the Japanese traders in the 1920s did not price futures correctly when compared with

modern traders. Perhaps the tail does wag the dog after all.

1 This article summarises T Daghli and L Moore (unpublished working paper) 'The Valuation of Equity Futures on the Tokyo Stock Exchange, 1920-23'.

Toby Daghli is a senior lecturer in Economics and Finance at Victoria University of Wellington and a research principal of ISCR. **Lyndon Moore** is a professeur adjoint at the Université de Montréal.

Table 1: Japanese firms in the study, compared with modern (Chicago) firms

| 1920s Japan | Modern Chicago |
|-----------------------------|---------------------|
| Nippon Yusen Kaisha | Apple |
| Toyo Kisen Kaisha | Research in Motion |
| Fuji Gas (50 yen) | Citigroup |
| Fuji Gas (25 yen) | Freeport McMoran |
| Kanegafuchi Cotton (50 yen) | Bank of America |
| Kanegafuchi Cotton (40 yen) | JP Morgan |
| Nisshin Cotton | Google |
| Toyo Cotton | Goldman Sachs |
| Dai Nippon Sugar | Amazon |
| Ensuiko Sugar | Qualicomm |
| Toyo Sugar | Nucorp |
| Tainan Sugar | Walmart |
| Yokohama Stock Exchange | Exxon Mobil |
| Tokyo Stock Exchange | Johnson and Johnson |
| Tokyo Stock Exchange (new) | CME |
| South Manchuria Rail | Wells Fargo |
| Hokkaido Coal and Steamer | Sears |
| Tokyo Woollen Cloth | Morgan Stanley |
| Toyo Muslin | US Steel |
| Jomo Muslin | Gilead |
| Tokyo Muslin | Intel |
| Dai Nippon Fertilizer | Microsoft |
| Kinogawa Power | |
| Nippon Kinematographe | |
| Fuji Paper | |
| Teikoku Hemp | |
| Nippon Hemp | |
| Nippon Milling | |
| Toa Milling | |

Table 2: Unadjusted mispricing

| Futures pair | All | 1 month vs 2 months | 1 month vs 3 months | 2 months vs 3 months |
|-------------------|-------|---------------------|---------------------|----------------------|
| 1920s Japan | 0.018 | 0.009 | 0.026 | 0.010 |
| Modern OneChicago | 0.019 | 0.018 | 0.020 | 0.019 |

Table 3: Mispricing after removing asynchronicity

| Futures pair | All | 1 month vs 2 months | 1 month vs 3 months | 2 months vs 3 months |
|-------------------|--------|---------------------|---------------------|----------------------|
| 1920s Japan | 0.007 | -0.002 | 0.014 | -0.001 |
| Modern OneChicago | -0.001 | -0.001 | 0.001 | -0.002 |



Co-operative Advantage

Would you willingly pay more for groceries from a local co-operative than for identical brands sold by the local branch of a privately-owned firm? Morris Altman's survey-based research in Saskatchewan (Canada) indicates that consumers will pay higher prices at the co-op, even when they're not members and so don't participate in the usual member-only benefits.¹ This suggests that, in competitive markets, consumer co-operatives enjoy a relative advantage over non-co-ops because of the value consumers place on the non-material benefits of shopping at a co-op – such as the feel-good glow they get from the co-op's investment in social cohesion.

Consumer co-operatives are commonplace in many markets in Canada, selling such goods as groceries, hardware, banking services and farm supplies. In New Zealand, high-profile consumer co-operatives supply medical insurance (Southern Cross), banking services (PSIS), electricity lines services (Electricity Ashburton) and agricultural supplies (Ravensdown).

Consumer co-operatives are in effect 'owned' by their customers. Members provide capital in the form of joining fees, jointly share in the control of the firm, and typically receive benefits in proportion to their custom. Examples of these benefits include discounts on purchases, and an annual rebate whereby surpluses are distributed to members (similar to dividend payments in investor-owned firms).

Originally many co-ops were formed to ensure the supply of goods in regions where it was otherwise uneconomic for an investor-owned firm to have a presence, or to insulate the members from the high prices charged by an investor-owned monopoly provider. But today it is quite common to find them competing directly with firms that have other ownership arrangements, and selling to both members and non-members. In some cases, the co-operative is the market leader – for example Southern Cross in the New Zealand medical insurance market.

While market leadership could be attributed to factors such as superior products, higher productivity or lower cost structures, it is possible that other factors associated with the co-operative structure could also confer an advantage. Classical economic theory would suggest that if the co-operative is selling identical goods of identical quality at the same price as its competitors, then there should be no special advantage attending to its co-operative form. Consumers would be indifferent to where they purchased the item,

and market leadership would be effectively random. However, there may be some other intangible characteristic of the co-operative's products, and customers may value that characteristic positively. If there is, then the co-operative will have some degree of market power and this would translate into the ability to charge higher prices for identical goods or to lower the quality of goods supplied without losing large numbers of customers to competitors.

But what might this other characteristic be? Ordinarily, one would expect co-operative members to prefer to purchase from the co-operative – even at higher prices – because this allows them to participate in both tangible and intangible member benefits. Tangible benefits include the discounts and annual rebates noted earlier; intangible benefits might include the 'feel-good' glow customers get from the social cohesion that's generated by a group of people with similar interests (for example, from the same geographic locality or the same industry sector) engaging in the collective act of running a co-operative.

But if *non-members* are also willing to pay higher prices even though they do not participate personally in any tangible or intangible member benefits, this could be because they too place a positive value on the co-operative's intangible outputs. That is, non-members are prepared to pay a premium to ensure the co-operative's effect of social cohesion; if they were to purchase lower-priced goods from the non-co-op, social cohesion could not be guaranteed. In effect, the co-operative's differentiated product 'bundle' gives it some degree of market power, at least with those customers who value the social-cohesion output.

Just imagine ...

To test the hypothesis that such market power attends consumer co-operatives in

Saskatchewan, an 'experiment' similar to those commonly used in economic psychology and behavioural economics was conducted. Nearly 300 students at the University of Saskatchewan and the University of Regina (which is also in Saskatchewan) completed a survey that asked them to imagine how they would respond to several scenarios where they could purchase goods at a range of different prices from a hypothetical co-operative and a hypothetical non-co-op store, depending upon whether or not they were a member of the co-operative.

The scenarios included a distinction between worker co-operatives and other co-operatives, as the researchers were also interested in whether 'worker co-operatives' elicited a different response. Although the survey methodology could not take account of factors such as an individual's past purchase experiences at a particular store or the transaction costs of switching to a different store from the one usually visited, the responses were expected to reveal the extent to which respondents would be prepared to pay higher prices for the co-operative's goods. If no market power existed, then demand for the co-operative's goods would collapse to zero as soon as their price rose above the non-co-op price. If market power did exist, its extent could be assessed by the slope of the co-operative's demand curve (derived from the responses to the survey).

Figure 1 shows the results of the experiment over four scenarios – a good priced at \$5, \$20, \$200 and \$1000 at the non-co-op and at varying levels above those prices at the co-op. They show the percentage of customers who would buy from the co-operative as the co-op's price rises above the non-co-op's price.

In all scenarios a very large percentage of both member and non-member customers preferred to purchase from the co-op when

the co-op's price was identical to that of the non-co-op. As well, both members and non-members showed a willingness to pay *higher* prices for the co-operative's goods.

As expected, the proportion of members who were prepared to pay higher prices was larger than the proportion of non-members who were prepared to do so – and members were willing to pay even higher prices than non-members. But both members and non-members were increasingly less willing to pay higher prices as the cost of the item rose; the curves become successively 'flatter' as the price rises from \$5 to \$20, \$200 and \$1000.

Warm and fuzzy

The experimental results confirm that both economic and social variables affect the decision about where to purchase. Co-operative members have a stronger affinity for co-op products regardless of price; but non-members also have some affinity for the co-op products even though it involves some material self-sacrifice. Plausibly, the affinity is underpinned by the co-operative's social-cohesion investments and it confers some competitive advantage on the co-operatives relative to their non-co-op rivals (although this diminishes as the relative price increases).

This competitive advantage provides co-operatives with some protection against competition from non-co-ops. So it will allow efficient co-operatives to increase their market share and dominate the market. But it will also allow inefficient co-ops to survive in a competitive market. However, social variables will only go so far: high-priced and inefficient co-operatives will suffer the wrath of consumers searching for relatively low-priced, high-quality output.

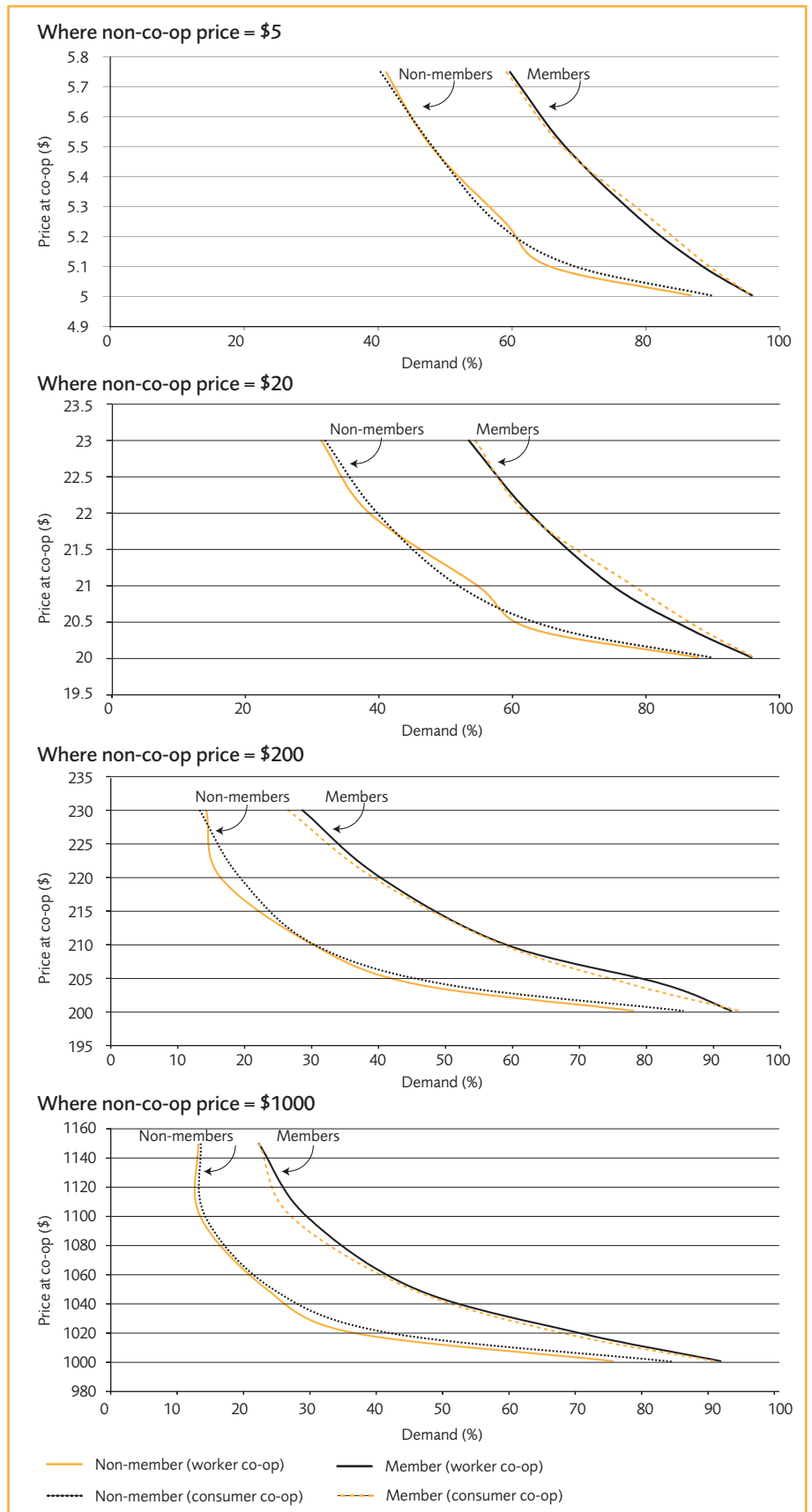
The research results were derived from individuals with close associations with Saskatchewan, where there has been a long history of co-operative firms and many strongly expressed views of their social merits. The degree of the co-operative preference expressed in this survey may in part reflect this history, although many of the survey subjects were international students and so the 'Saskatchewan effect' may be of little consequence. Greater understanding of the 'co-operative advantage' could be gained from repeating the experiment in different geographic locations, to determine the extent to which these results reflect local or global preferences and to gain some insights into how the preferences evolve. As there are many similarities between the economies of New Zealand and Saskatchewan – even though the consumer co-operative has a lower profile in *urban* New Zealand – a first

step would be to repeat such research in the New Zealand context.

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1 This article is based on Co-operative Membership and Globalization: Creating Social Cohesion through Market Relations, a research project conducted with funding from the University of Saskatchewan's Social Science and Humanities Research Strategic Themes programme. Slides from the ISCR seminar 'Is there a co-operative advantage?', which was based on this research and took place on 22 February 2011, are available at www.iscr.co.nz/f631_18000/18000_Modeling_Consumer_cooperatives_Selected_Slides_ISCR_2011.pdf.

Figure 1





alternative means to just ends

When commercial and personal agreements break down, the courts can be asked to decide how the dispute will be resolved. However, for many parties the court process is not ideal. Lukas Schroeter explores how voluntary alternative dispute-resolution (ADR) methods have evolved in response to some of the shortcomings of court processes – and have provided choices and potential increases in welfare for the adversaries. Greater access to and use of ADR thus offers not only more-satisfied disputants but also an alternative means of reducing high workloads and long waiting lists in the civil courts.

ADR is an omnibus term that refers to non-litigation methods of dispute resolution which disputants agree to use in order to resolve their dispute.¹ These methods are voluntary: both parties to a dispute must agree to participate; no one can be compelled to do so. By contrast, in a litigation case the court can award an enforceable judgment in favour of the plaintiff, if the defendant refuses to participate.

Parties can give their consent to resolve a dispute via ADR "ex ante" or "ex post" the circumstances that give rise to it. "Ex ante" consent commonly occurs through an ADR clause in a contract: such a clause will stipulate that parties have to make a good-faith effort to resolve a dispute through one or more ADR processes before they can resort to litigation, and it will also set out the terms by which the ADR is to be conducted. "Ex post" consent is given after the event, when parties agree to resolve an existing dispute via ADR.

The three most common ADR processes are: Negotiation – direct bargaining between the parties without the presence of a facilitator.

Mediation – the use of an independent mediator who facilitates bargaining between the parties but who does not have the power to determine the outcome.

Arbitration – submission of arguments to an independent arbitrator who then decides the dispute (much like a judge does in litigation).

Parties can set the parameters for each of these processes however they like. For example, they can determine whether they will be represented by counsel, what rules or laws will be used in the attempt to settle their dispute, and what type of remedies will be available. The outcome is likely to be secured by a contract.

The rules of attraction

ADR can be an efficient way to resolve disputes. In contrast to the rigid process and limited set of remedies that define litigation, ADR offers a high degree of control to those in dispute – which means it can be tailored to reflect the disputants' preferences, thereby maximising their (expected) aggregate welfare. However, because people's preferences and the importance they attach to them are idiosyncratic, it is not possible to say whether ADR is in itself more efficient than litigation.

ADR is likely to be particularly attractive – compared with litigation – for four reasons.

Transaction costs are low. Time can be saved because there is no need to wait for a court to hear the dispute. Any third-party services that are required (such as mediators or arbitrators) can be acquired at market prices, with supply adjusting to meet demand. Financially, ADR can be cheaper because

much litigation procedure – including discovery and strict procedural rules – can be dispensed with at the parties' discretion. And the fact that ADR need not be bound by legal precedent also dispenses with the time and financial cost of having to appeal a case through to a sufficiently senior court if a favourable outcome is dependent on overturning existing precedent.

Compared with litigation, ADR offers a much *wider range of potential remedies*. The options are not limited to financial compensation or specific performance.

ADR can be *less risky* than litigation. Disputants can pre-determine the parameters of any settlement; they can also determine the rules or laws that will be used to settle their dispute.

Resolutions reached via ADR can be kept *confidential* through a clause in the ADR or settlement agreement.

However, ADR may not be the optimal resolution method for all disputes. Its major weakness relative to litigation is the fact that its resolutions have no formal precedential value. Someone who anticipates subsequent disputes on the same issue may prefer to establish a precedent – because a clear and favourable precedent raises barriers to others pursuing the matter in the future. The fact that ADR decisions have little precedential value, and that they divert disputes from litigation which does have such value, is also socially undesirable. This is because precedent is a positive externality of litigation: it sets markers for the resolution of future disputes between parties who are unrelated to the original dispute.

Everybody wins

Legal institutions have evolved considerably to facilitate and accommodate ADR – and these evolutions are enabling the welfare-maximising potential of ADR to be realised.

The law of contract has evolved to give effect to the settlement agreements reached as a consequence of ADR processes. This use of contracts is unique insofar as there has been no need to resort to contract law to give effect to judgment orders that stem from litigation; such orders are enforceable *per se*. Contracts have also evolved so that parties consent to resolve any future disputes via ADR rather than litigation: this has required the development of a unique type of conditional contract. These "ex ante" ADR clauses can be

particularly efficient because they allow parties to commit to ADR in advance, in the generalised belief that ADR will be to their mutual benefit. So such clauses allow parties to avoid situations where one of them will choose to go to court after a dispute has arisen – a choice that may maximise that party's pay-off but reduce the aggregate pay-off to both parties.

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The courts as an institution have had to decide how to react to ADR: they now enforce "ex ante" ADR clauses in contracts, having overcome an initial reluctance to do so. This evolution has conferred certainty and credibility on ADR. It enables parties to rely on such contracts, thus significantly reducing the monitoring costs that would otherwise be necessary to ensure compliance with an agreed ADR process.

Universities along with professional-development organisations are undertaking research into ADR processes and developing new courses for training practitioners in ADR. The educative focus in particular is increasing the legal profession's awareness of ADR and contributing to the pool of suitably trained practitioners – which in turn has the potential to contribute to a more dynamic and competitive market for practitioners' services, thereby reducing their capacity to earn monopoly profits. The ongoing research assists by developing deeper understanding and more effective processes.

Specialist ADR industry bodies are emerging, such as LEADR NZ. These bodies issue model ADR clauses, guidelines and codes of conduct for their members. Such initiatives minimise the search and monitoring costs that users incur when drafting ADR agreements and selecting ADR practitioners. Industry self-regulation can also be efficient because it can mitigate somewhat the information asymmetry that exists between practitioners and their customers.

There is also some indication that new (legal) reporting mechanisms and journals are being developed to address the negative effect that confidential ADR proceedings have on the development of precedent. These reports, focused largely on arbitration proceedings, are starting to note the 'ratios' from such proceedings without revealing the identity of the parties. While this doesn't change the fact that the outcomes of ADR processes are not legally binding on subsequent disputes, it can approximate the effect of legal precedent. Courts may even treat such 'precedent' as persuasive, especially if the decisionmakers (in the case of arbitration) are highly regarded lawyers, or even retired judges, and they deliver well reasoned 'judgments'. The scope for this development is yet to be realised fully.

The evolution of ADR has occurred because of disputants' self-interested desire to find dispute-resolution methods that are better at meeting their preferences than litigation is. Its wider use in New Zealand would contribute to lowering the demand for scarce judicial resources, thereby offering an alternative means of addressing budgetary pressures on the publicly-funded court system.

¹ This discussion ignores court-ordered ADR .

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The new cargo cult?

Bronwyn Howell and Mark Obren ask whether the internet can transform the New Zealand economy in the same way as refrigerated shipping (the 'freezer ship') did in the late 19th century.¹

In 1966, Australian historian Geoffrey Blainey coined the phrase 'the tyranny of distance' to describe the peculiar challenges faced by small distant economies such as Australia and New Zealand. In a world reliant upon the transportation of large and bulky physical goods, such economies inevitably faced higher transportation costs than competitors located physically closer to the densely populated northern-hemisphere markets. Blainey cited the freezer ship as a technological innovation that opened up the ability for antipodean agricultural exporters to compete on a (relatively) level footing with their northern-hemisphere competitors.

In recent years, the freezer ship has been frequently used as an analogy for how other technological innovations – such as the internet – can transform the Australian and New Zealand economies. The freezer ship is commonly presumed to have dramatically altered the cost of transporting meat and dairy products to the consumer markets, making distance no longer a significant economic handicap. As the internet dramatically reduces the costs of communication, so it likewise is presumed to reduce the disadvantages of distance. If Australia and New Zealand could alter their economies away from producing bulky physical goods with high transportation costs (agriculture) to the 'weightless goods' of the information economy which are transported nearly costlessly, then all economic disadvantages associated with distance will disappear. In this new view, 'New Zealand is at the centre of the world'.²

Beyond the freezer ship

Interpreted through the lens of Michael Porter's *The Competitive Advantage of Nations*,³ the freezer-ship story becomes something very different. Blainey's argument was that some technologies have the capability to neutralise some of the disadvantages of distance. It was not transport costs to markets that underpinned the freezer

ship's economic impact on Australia and New Zealand. After all, it costs the same to move a tonne of freight on a freezer ship as on a comparable cargo ship. And the freezer ship had no impact upon the economic fortunes of sub-Saharan Africa or the Falkland Islands – similarly small and distant economies relying in the 19th century on extraction industries (such as mining, sealing, whaling) and on subsistence agriculture. Rather, the freezer ship enabled antipodean farmers to capitalise on an underlying competitive advantage that lowered their costs (including the additional costs of transporting them vast distances) such that it became viable to compete with northern-hemisphere farmers in markets where customers perceived the frozen and long-life imports as substitutes for fresh and perishable locally-sourced produce. In New Zealand, that advantage was a benign climate enabling low-cost grass production and all-year grazing (no need for costly barns). And both New Zealand and Australia also had – in the 19th century at least – vast quantities of under-utilised land that could be rapidly converted to higher-value agricultural production at relatively low cost.

The freezer ship was necessary for the economic transformation, but it was not sufficient. It enabled *participation* in world markets; but *competitive advantage* relies upon having either a superior product at the same cost (excluding transport) or an equivalent product with lower costs (excluding transport). Sustaining that advantage over time relies upon having unique inputs that cannot be easily replicated by competitors whose other costs (transport) are lower. Technologies are widely available, so cannot of themselves confer such sustainable advantage. Some other input must be reasonably impervious to imitation. If both the technology and the 'advantage' are replicable, then any distance-based disadvantage still necessarily handicaps the more distant firm relative to closer ones.

Wired ... but distant

The internet enables New Zealanders to *participate* in a new range of markets, but it offers no economic panacea. The costs of distance and lack of scale pose higher internet-participation costs for New Zealand firms transacting in distant markets. Fixed network costs must be spread over a much smaller population than in other countries. The internet cables connecting New Zealand to the rest of the world are the world's longest, and the same small population must pay for them – this makes costs higher than in more populous countries that have much shorter trunk cables. Moreover, if timeliness matters – think of split-second sequencing (where the first in the queue takes all) or waiting longer for web pages to be populated with data sourced from far away – New Zealand's relative disadvantages increase.

If New Zealand firms are to succeed in the new 'weightless economy', this will require some competitive advantages to compensate for the tyrannies of distance that remain – and to be sustained, these advantages must be neither replicable nor relocatable. Unfortunately, the competitive advantages in producing 'weightless' goods are often not place-based, but rather relatively easily relocated in order to diminish disadvantages (such as human capital). Whether such advantages exist or can be created in New Zealand is moot; whether they can be captured in New Zealand is debatable. Internet-related 'tyrannies of distance' undoubtedly will still prevail.

1 This article is based on: M Obren and B Howell (2010) 'The Tyranny of Distance Prevails' (available at www.iscr.org.nz/f609,17429/17429_The_Tyrant_Lives_v3_Nov21.pdf).

2 Ernst & Young (1999) 'The Knowledge Economy' (available at www.med.govt.nz/templates/MultipageDocumentTOC___17256.aspx).

3 ME Porter (1990) *The Competitive Advantage of Nations*. The Macmillan Press Ltd. London.

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