ISCR

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IN THIS ISSUE

They shoot horses don't they... but what about their trainers?

Many economic transactions – particularly those involving 'experts' and 'clients' – are characterised by information differences between the parties. Such differences may encourage self-serving behaviour by the party with the information advantage, and thus are said to necessitate constraining rules and regulations. But as Glenn Boyle explains, most experts rely on repeat business – a dynamic incentive that can provide effective self-regulation.[1]

Can the need to maintain a good reputation motivate experts to act in the best interests of their clients? Overseas evidence from residential real estate sales suggests not – agents achieve better prices when selling their own houses than when acting on behalf of clients.[2] But selling a house is typically a one-shot deal where the agent is unlikely to act for the same client again in the future. In short, the potential for repeat business is slight.

A more typical example of an expert-client relationship is that which exists between racehorse trainers and owners. Like real estate agents, horse trainers possess considerably more knowledge and information than clients do. They also face a similar incentive to devote more effort to their own interests: preparing client-owned horses yields a fixed daily training fee plus a proportion (usually 10%) of winnings, whereas 100% of winnings is retained from self-owned horses. But unlike real estate agents, trainers rely heavily on repeat business from the same set of clients. If they devote more training effort to self-owned horses, they run the risk of client-owned horses transferring to other stables. Such transfers not only entail the loss of future training fee income, but also create deadweight costs (such as advertising and searching for replacement horses, or downsizing and retraining in another profession).

Do such costs provide a sufficiently strong incentive for experts to treat clients just as they would treat themselves? The horse racing industry is an ideal setting for examining this question: not only are outcomes easy to measure at the racetrack (unlike, say, building or accounting) but the necessary data are also publicly available (unlike, say, medicine or dentistry, where treatment is confidential).

And the winner is ...

In a sample comprising almost 8000 standardbred horses spread throughout New Zealand, those that are client-owned perform approximately 27% better than their trainer-owned counterparts. Moreover, 42% of the horses in the bottom performance decile are trainer-owned, despite this group making up only 37% of the sample; and 72% of horses in the top performance decile are client-owned (compared with a sample representation of 62%).

Of course this ignores other variables that potentially affect horse performance. In particular, trainers may face stronger capital constraints –

to page 2

from page 1

resulting in outside clients buying a disproportionate share of the most expensive horses, which subsequently perform best. But although controlling for variations in horse and trainer characteristics reduces the size of the performance differential between client- and trainer-owned horses, it nevertheless remains strictly positive: every $10,000 earned by the average horse when trainer-owned becomes $11,220 under client ownership.

Whither reputation?

Perhaps the apparent performance superiority of client-owned horses is spurious, because some important but unknown variable is missing from the analysis. One way of addressing this point is to look for supporting evidence in various data subsets. For example, trainers who prepare a large number of horses are likely to be most dependent on training activities for their income and hence most concerned with maintaining a good reputation. This suggests that client-focused incentives should be stronger in such stables – and hence the performance advantage of client-owned horses should be greater than in stables that are less dependent on future client patronage.

It turns out this is exactly what happens: in stables that have little to lose from upsetting clients (small stables and stables with relatively few outside clients), trainer-owned horses do better on average than client-owned horses – just as the usual incentives story would suggest. But the reverse is true in stables where outside clients provide the bulk of a trainer's income. There, client-owned horses perform significantly better than their trainer-owned counterparts. Although the compensation structure for horse trainers encourages the exploitation of clients, trainers who have a lot to lose from upsetting clients apparently choose to put client interests first.

All of this suggests that trainers behave as though they are concerned about possible adverse consequences from paying insufficient attention to client horses. But are these concerns justified – do owners actually impose discipline on trainers? It turns out that trainers are right to be worried: a client-owned horse in the bottom performance decile is roughly twice as likely to be transferred to another stable as one in the top decile. Interestingly, the average transferring horse goes on to perform significantly better in its new stable (as would be expected if its previous trainer had been shirking).

If repeat-business incentives work in the racing industry, might these not also constrain behaviour in other settings? One reason why such incentives are likely to be strong among horse trainers is the unregulated nature of the labour market in which they operate: horses can, and do, transfer from one stable to another literally overnight. Most labour markets do not work as efficiently as this, making future income less dependent on performance and reputation. And, even when this is not the case (it is usually simple enough to sack one's accountant, lawyer or plumber), performance is not always so easy to observe as at the racetrack. Nevertheless, the behaviour of horse trainers provides some idea of what is possible in the right circumstances.

But are some animals more equal than others?

Although trainers with a lot to lose may not take advantage of clients in general, they may nevertheless have an incentive to discriminate *between* clients – in particular by favouring clients who own horses that race for high stakes. This is because success in such races provides greater financial and reputational payoffs for trainers. But, as some psychologists stress, membership of a profession is likely to induce high intrinsic motivation; such 'professional pride' considerations should encourage trainers to treat all clients equally, regardless of the potential stake-winning ability of their horses.

Of course, attempts to address this question by looking at racecourse performance encounter an obvious difficulty: even if all trainers try harder and provide higher-quality service in preparing their horses for a high-stakes race, only one horse can win that race. One way around this problem is to examine the relationship between race stakes and the predictive power of betting odds. In handicapping any race, the betting public uses a vast array of information such as expert opinion, prior performance, trainer quality, and so on. However, it does not have access to an important piece of inside information: how hard is each stable trying? A trainer may have been sick or away on holiday, leaving the horse in the care of a junior stablehand; or he may be using the current race as a 'practice run'; or, rather less legally, he may have betting plans that require his own horse to lose. In races where any of these unobservable situations exist, bettor odds based on publicly available information will be a less reliable predictor of race outcomes. And because the financial incentive to behave in any of these ways is greatest in low-stakes races, the betting odds observed in such races should have less predictive power than the odds in high-stakes races – that is, bettor favourites should succeed more often in the latter and average dividends should be lower, if trainers discriminate between clients on the basis of personal financial advantage.

Again, this is indeed what happens. Across 30,426 standardbred races held in New Zealand between 1993 and 2006, there is a strong negative relationship between race stakes and betting dividends. After controlling for field size and for race and track idiosyncrasies, a move from the 20th percentile of race stakes to the 80th is associated with a $0.35 decrease in the average win dividend, a $1.45 decrease in the average quinella dividend, and a $29.05 decrease in the average trifecta dividend.

to page 11

1 This article is based on: G Boyle, G Guthrie and L Gorton. 2007. 'Hold (on to) your horses: resolving conflicts of interest in asset management; and on G Boyle. 2007. 'Do financial incentives affect the quality of expert performance? Evidence from the racetrack'. Both papers are available at www.iscr.org.nz/navigation/research.html.

2 See 'Putting the real into real estate' *Competition and Regulation Times* issue 19 p3.

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Raising the quality of debate

ISCR's new chairman Rob Cameron gives his views on ISCR and what it does.

I was flattered to be offered the role of Chairman of ISCR's Board of Trustees. ISCR's track record and reputation in producing quality research is now well established: the importance of its work is not in doubt.

The primary objectives of ISCR's research are directed at developing knowledge of:

- how markets and organisations operate
- how markets provide appropriate incentives and disciplines for organisations
- the limitations of markets, and the role of regulation in addressing these limitations
- the importance of property rights and institutional structures in facilitating the effectiveness of markets, organisations, competition, and regulation in New Zealand.

A better shared understanding of these matters is crucial to the quality of the regulations and laws governing our markets, and the behaviours and outcomes they produce.

In undertaking my 'due diligence' for the Chairman's role I was surprised and pleased at the alignment between ISCR's approach to its objectives and the Cameron Partners 'brand

values' of analytical rigour, insight and independence.

Let me explain what these 'values' mean for ISCR.

First, ISCR believes in the importance of applying analytical rigour to addressing complex issues and problems. As my predecessor noted in issue 21 of *Competition and Regulation Times*, ISCR aims to meet the highest standards of academic rigour and scholarship. It does this by making extensive use of academics who are experts in their respective fields and by publishing its research.

Second, ISCR research is directed at searching for insights that have the potential to

EDITORIAL

inform companies' decisions, government policy, and the implementation of regulations. Moreover it strives to communicate the insights from its research in a way that is clear and accessible to a non-academic audience.

Third, ISCR's research is independent of the interests of its paying members or political influence. The research is owned by ISCR and publication in refereed academic journals is actively encouraged.

In the end my decision to accept the role was an easy one to make.

I look forward to making a contribution to an organisation that plays a key role in raising the quality of public debate on competition and regulation in our markets.

Rob Cameron is the founding partner of Cameron Partners Ltd. He has 23 years of experience as an investment banker and is a Harkness Fellow, a Hunter Fellow of Victoria University, and a member of the Supporters Council of Enterprise NZ Trust. Rob became Chairman of ISCR in December 2007.

Research Publications and Reports from ISCR's Principal Research Team July 2006 – February 2008

Academic journal articles and book chapters

Glenn Boyle and **Richard Meade**
'Intra-country regulation of share markets: does one size fit all?' *European Journal of Law and Economics*. Available online at: www.springerlink.com/content/100264/?Content+Status=Accepted

Glenn Boyle, Helen Roberts and **Stefan Clyne**
'Valuing employee stock options: implications for the implementation of NZ IFRS 2' *Pacific Accounting Review*, 2006, vol 18, pp3-20.

Lewis Evans, Graeme Guthrie and **Steen Videbeck**
'Assessing the Integration of Electricity Markets Using Principal Component Analysis: Network and Market Structure Effects' *Contemporary Economic Policy*, 2008, vol 26, pp145–161.

Lewis Evans and **Neil Quigley**
'The performance-based research fund and the benefits of competition between universities' Chapter 9 in *Evaluating the Performance-Based Research Fund: Framing the Debate*, eds L Bakker, J Boston, L Campbell and R Smyth, 2006, Institute of Policy Studies.

Graeme Guthrie
'Missed opportunities: optimal investment timing when information is costly' *Journal of Financial and Quantitative Analysis*, 2007, vol 42, pp467-488.

Graeme Guthrie
'Regulating infrastructure: the impact on risk and investment', *Journal of Economic Literature*, 2006, vol 44, pp925- 972.

Graeme Guthrie and **Steen Videbeck**
'Electricity spot price dynamics: beyond financial models' *Energy Policy*, 2007, vol 35, pp5614-5621.

Bronwyn Howell
'Case 2: Planet Skin' Chapter 3 in *New Zealand Case Studies in Information Systems*, 2007, Pearson Education New Zealand.

Bronwyn Howell
'Competition, Regulation and Broadband Diffusion: the Case of New Zealand' *Handbook of Research on Global Diffusion of Broadband and Data Transmission*, ed. Y Dwivedi, 2008, Information Science Reference (ISBN: 978-1-59904-851-2).

Bronwyn Howell
'Paying for the Hospital Waiting List Cull at the GP's Surgery: The Changing Locus of Financial Risk-Bearing in New Zealand's Primary Healthcare Sector', *Agenda*, forthcoming.

Research reports

Glenn Boyle and Eli Grace-Webb
Sarbanes-Oxley and its Aftermath: A Review of the Evidence, 2007.

Matt Burgess and **Glenn Boyle**
Analysis of the Effectiveness of Treatment in the Pegasus Secondary Falls Project, 2006 (for ACC).

Lew Evans and Eli Grace-Webb
Meat Industry Performance and Organisational Form, 2008.

Lewis Evans and **Richard Meade**
The Effect of Industry Structure and Institutional Arrangements on Growth and Innovation in the New Zealand Agriculture Sector, 2007 (for MAF).

Richard Meade and **Chris Insley**
Maori Impacts from the Emissions Trading Scheme: Detailed Analysis and Conclusions, 2008 (for MFE).

Cooperative? Investor-owned?
A TALE OF TWO ORGANISATIONAL FORMS

The age-old contest between cooperative (supplier-owned) and investor-owned organisational forms rolls on in New Zealand and elsewhere. Typically the debate assembles pros and cons of each form, and then usually reaches the conclusion that the best test is the survival of each form in competitive industries. But many industries have the two forms of organisation existing side-by-side, with the prevalence of each changing over time in response to technological, economic and social change. Lewis Evans re-examines this issue in the context of the New Zealand meat processing industry.

The choice between cooperative and investor-owned organisational forms has been given recent impetus in New Zealand as Fonterra seeks some changes in its organisational structure to capture the best features of other organisational forms whilst remaining a cooperative. In general the number of 'pure' cooperatives is small, as many cooperative organisations have features more commonly associated with other organisational forms.

The New Zealand meat processing industry is one place to look to observe the performance of cooperatives and investor-owned firms in the same market. To shed some light on the different approaches, Eli Grace-Webb and I have compared elements of the performance of the major cooperative firm PPCS with that of the investor-owned firm AFFCO.[1] The comparison is not definitive about which is the better organisational form; but it does reveal differences implied by the different rules and structure of these organisations that are of relevance in this assessment. The context is one of a meat processing and export industry that has been in a perpetual state of change since the removal of subsidies and the deregulation of agriculture in the mid 1980s.

PPCS started in 1947 as a cooperative marketing firm. Since then it has evolved into New Zealand's largest meat processing and exporting firm, with governance that is very close to the pure cooperative model. Until very recent times PPCS continued a strategy of expansion by acquisition of other firms' plant. In 2006 and 2007 it found itself financially stretched – a reflection of, among other things, its acquisition policies and actions and the state of the export meat market.

AFFCO began life as the Auckland Farmers' Freezing Company in 1904. Although it was for many years run as a cooperative, financial difficulties in 1993 saw it seek outside capital and subsequently adopt the investor-owned organisational form (at which time it also acquired its current name).

Financial flexibility

The ability to raise capital is an oft-cited advantage of investor-owned companies – as illustrated by the investment in AFFCO that created a viable firm from a cooperative in financial difficulty. Such capital is not available to cooperative companies, which generally must rely on the contributions of their supplier-shareholder owners as well as willing lenders. When a cooperative company is in financial distress it must fall back upon its supplier-shareholders. In 2006 PPCS did this in part by requiring that its suppliers (both existing supplier-shareholders and any new suppliers) acquire 'Supplier Investment Shares' linked to livestock processed by PPCS, with an upfront payment of 90% of the nominal value of these shares being required.[2] The extent to which this was successful in raising finance would have depended on the desire of PPCS suppliers to provide the equity and also on their ability to sell their livestock to other companies (which would in turn have been affected by the competitiveness of the meat processing market). If the competition was limited – and the market's capacity may well have been limited, particularly at peak periods – there would have been little opportunity for suppliers to switch to other processors.

Cooperatives have shareholders with relatively small ownership rights – PPCS's supplier-shareholders are limited to holding less than 0.1% of ordinary shares. Thus no individual shareholder has a role on the board as of right; nor do they have any strong incentive to oversee management. It is very difficult and costly for shareholders to co-ordinate in groups so that they may influence the company's management and strategic direction. This position differs markedly from that of investor firms, whose ownership is contestable. The difference is well illustrated by the changing shareholdings of AFFCO and by the dominance of some shareholders in the strategic direction and oversight of AFFCO's managerial performance: the latest such shareholding is that of Talleys Fisheries Limited (50.01%).

That old agent-principal problem

It is widely held that, in comparison with investor-owned firms, the limited ownership rights of a cooperative place its managers in a strong position relative to its owners. This may be evidenced by PPCS's retiring CEO having been in place for some 20 years when the mantle was passed to an internal candidate in 2007. By contrast, AFFCO has had 4 CEOs since 1998. Although concrete evidence is hard to come by, these differences between the two companies appear to be in accordance with the governance differences between cooperatives and investor-owned firms.

Cooperatives work best when each supplier-shareholder supplies a similar product, because this enables collective non-market governance of (and by) many suppliers. The low variation in milk characteristics, for example, reduces sources of conflict that suppliers may have about the operation of their company. In this respect, it is interesting that AFFCO has recently diversified into dairying. This would be a much more difficult venture for PPCS to manage because of the resulting diversity among suppliers, product, and operation.

Information differs

Cooperatives and investor firms are generally on a level playing field under New Zealand law and regulation. However, because pure cooperatives are not listed companies, the information that they must provide to their supplier-shareholders is less than that required for listed firms (although co-operatives may choose to meet these higher information requirements).

The effect of PPCS's 'Supplier Investment Shares' was that supplier-shareholders were subject to a form of equity-contribution tax, which they could avoid only by selling their livestock to other companies.

One legal exception to the level playing field is the cooperatives' exemption from the Securities Act requirement to register a detailed prospectus for each issue of securities (including shares). Cooperative prospectuses are not required to include financial information, prospects and forecasts, information on acquisitions of businesses or subsidiaries, or directors' interests – as long as there has been, within the previous nine months, a statement signed by all directors detailing any important matter that relates to the offer and that has not been published elsewhere. This is not the case for investor firms. The difference would appear to significantly reduce the ability of a cooperative's shareholders to monitor decisions and performance, and so confer more power to management.

The exemption presumably is in place to reduce the costs arising from the common cooperative practice (carried out at the board's discretion) of returning benefits to shareholders by a mix of dividends and rebates. This ability to return benefits in such a way highlights a further difference between the two organisational forms. PPCS, for example, can bundle the returns on its 'processing' capital, whether positive or negative, in the price that suppliers are paid for their livestock. AFFCO, however, must pay for raw livestock (and disclose those payments) separately from the returns it makes from processing and marketing. To the outside observer (including shareholders) this means accounting information does not reveal the financial comparisons between investor and cooperative firms' processing and marketing performance. It also means the prices reported for livestock may not be an accurate representation of the market price actually paid for livestock. Measured industry price indices will reflect the cooperative companies' bundled returns – particularly where cooperatives have a very large share of the market.

The jury's out

Cooperative and investor-owned companies provide different solutions to transaction problems of various sorts. And, as the present and the past reveal, there is a place for both organisational forms. Their different strengths and weaknesses mean that their relative strengths will vary over time, and as a result of changes in industry and other economic factors.[3] It is thus not surprising that hybrid cooperative-investor firms emerge, each combining relevant features of the other – and it is precisely these strengths and weaknesses that make it desirable to have competition between companies and their organisational forms in industries. It is not possible to stand back and definitively advocate one form in preference to another: the proof is in the pudding. This also means that New Zealand's legal playing field for organisational forms must remain relatively level.

1 L Evans and E Grace-Webb. 2007. 'Meat Industry Performance and Organisational Form: A 'Commentary' (available at www.iscr.org.nz).

2 The effect of this was that PPCS's supplier-shareholders were subject to a form of equity-contribution tax that they could avoid only by selling their livestock to other companies.

3 There is not space here to detail all relevant comparators between investor and cooperative meat processors – for example, both cooperative and investor-owned firms have made successful innovations in processing and marketing as well as various investments in modernisation.

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RANKING THE UNRANKABLE:
How Useful are OECD League Tables?

Using OECD rankings as either a measure of a country's performance or as a target to justify adopting a particular policy has become popular amongst the OECD's member states in recent years. Policies benchmarked through rankings are simple concepts to market to voters and appeal to a sense of nationalistic pride: 'winning' is important, but if you can't win then at least you want to be seen to be outranking your fiercest national rival. However, as Glenn Boyle and Bronwyn Howell note, using rankings in this way is simplistic and potentially dangerous.[1]

OECD rankings bear many of the hallmarks of sporting competitions: higher-ranked countries quickly become paragons, and are placed upon pedestals as a plethora of analysts scour their policy environments to determine the secrets of their 'successes'. The resultant readings are peddled as recipes for improvement to lower-ranked countries eager to scale the heights of the league tables. Minute movements in the rankings after the adoption of specific policies quickly become offered as 'evidence' of the policies' effect, often despite the absence of any statistically significant causal relationships in properly-constructed empirical studies. Lower-ranked countries risk being deemed 'failures' for appearing below the magical median place number 15 or the equally mystical 'OECD average'. Countries eschewing the policies popularly presumed to be bolstering the high rankings of the 'winners' run the risk of international condemnation for 'refusing to adopt best practice', even though the efficacy of the policies is often more an article of faith than a justified conclusion based on rigorous analysis.

How useful then are the OECD rankings as either measures of, or targets for, policies? Whilst there is always some substance underlying the reported numbers, and whilst the OECD goes to some lengths to ensure that the numbers reported are accurate, broadly comparable, and from reputable sources (such as national statistics agencies), they must nevertheless be treated with caution.

The principal reason for this is that most OECD tables report only raw scores. But differences in raw scores between countries can be due to a vast array of factors. Some of these may be a consequence of policy differences but many are due to factors that the proffered policies are largely powerless to influence (geographic factors such as distance to markets, physical terrain, and so on). To attribute all of the differences between countries to different policies is overly simplistic. To base substantial, potentially risky, and costly changes in policy direction on the pursuit of ranking goals is dangerous, and may be doomed never to succeed simply because the policymakers along with the protagonists of their policies fail to understand exactly what the statistics behind the ranking are actually telling them.

Damned lies and statistics

Take, for example, broadband connections per capita. Rankings here have become the 'gold standard' in the policy competition to measure who is 'winning' the 'information economy' stakes (see Table 1). Korea's early success led to substantial analysis of the contribution made by its government in subsidising the deployment of infrastructure.[2] The United Kingdom's more recent rise up the rankings has been linked to its 'success' in introducing competition via unbundling and structural separation of BT (previously British Telecom). The United States' fall from 5th in 2001 to 10th in 2003 and 15th in 2006 is lamented as a catastrophe for the country whose president famously stated in 2004 that 'tenth is ten spots too low as far as I'm concerned', and has spurred a flurry of research and inquiry seeking its source.

But does all this angst make any sense? Suppose that every household and every business in every OECD country had a broadband connection ('Broadband Nirvana'). One might then expect every country to then be ranked first equal. But, as the House of Representatives Energy and Commerce Committee on the Digital Future of the United States was graphically informed by George S. Ford in his testimony to it in April 2007, in Broadband Nirvana the United States could at best aspire to a rank of only 20th in broadband connections per capita (see Table 2). This is because households and businesses rather than individuals purchase the type of broadband connections the OECD counts,

Table 1. Broadband subscriptions (per 100 inhabitants) and rank

Country	Subscription	Rank
Denmark	31.9	1
Netherlands	31.8	2
Iceland	29.7	3
Korea	29.1	4
Switzerland	28.5	5
Norway	27.7	6
Finland	27.2	7
Sweden	26.0	8
Canada	23.8	9
Belgium	22.5	10
United Kingdom	21.6	11
Luxembourg	20.4	12
France	20.3	13
Japan	20.2	14
United States	19.6	15
Australia	19.2	16
Austria	17.3	17
Germany	17.1	18
Spain	15.3	19
Italy	14.8	20
New Zealand	14.0	21
Portugal	13.8	22
Ireland	12.5	23
Hungary	11.9	24
Czech Republic	10.6	25
Poland	6.9	26
Slovak Republic	5.1	27
Greece	4.6	28
Turkey	3.8	29
Mexico	3.5	30

Note: OECD Countries, December 2006
Source: www.oecd.org

whereas the rankings compare the number of these connections purchased per capita. In the per-capita rankings, countries with small average household and business sizes will naturally outrank those with larger households and businesses.

As Ford and his colleagues note, US policymakers faced with Broadband Nirvana 'would continue to lament the fact that the country has sunk to 20th among the OECD and, no doubt, commission studies about what policies Sweden and the Czech Republic have utilized to achieve such a high rank'. Moreover, given such an environment, the only possibly successful strategy to push the country up the rankings would be to 'lower the relative household size ... and, consequently, increase subscriptions on a per capita basis'.[3] Ironically, New Zealand owes its mid-ranking position of 16th in Broadband Nirvana principally to its comparatively small average business size. Yet most of New Zealand's 300,000+ significant businesses are 'micro-businesses' (plumbers, builders, electricians, gardeners, house-cleaners, farmers) that are run from home and in almost all cases share the residential broadband connection, leading to Table 2 substantially overestimating the achievable maximum diffusion levels. Thus, even Broadband Nirvana rankings provide a poor benchmark for policy development – to reach this level of diffusion, it would be necessary for New Zealand to adopt policies preventing business and residential broadband connection-sharing.

The Broadband Nirvana example highlights flaws in policies that promote the ranking of outcomes in isolation from the crucial demographic differences that underpin those outcomes. Failure to take account of other factors such as economic differences may also lead to significant policy errors. For example, poorer households are less likely to own computers (much less purchase broadband), meaning that income levels are important differentiators. This is confirmed by the OECD's own analysis (see Figure 1): 62% of the difference between countries' broadband uptake can be explained by differences in GDP per capita.

Table 2: Broadband Nirvana

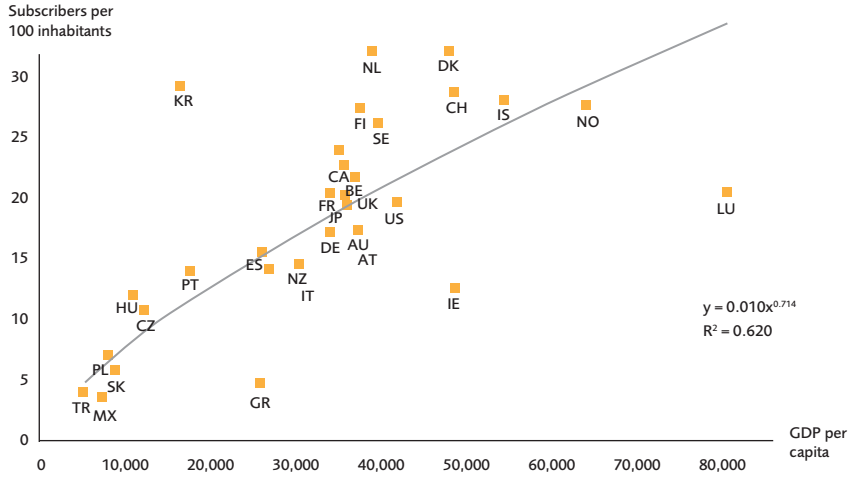
Country	Subscription	Rank
Sweden	54.1	1
Iceland	48.9	2
Czech Republic	47.8	3
Denmark	47.8	4
Finland	47.7	5
Germany	44.9	6
Netherlands	43.7	7
Switzerland	42.9	8
France	42.4	9
Canada	41.9	10
Hungary	41.1	11
Belgium	41.0	12
Austria	40.6	13
Italy	40.4	14
Norway	40.3	15
New Zealand	39.8	16
Portugal	39.2	17
Japan	39.0	18
United Kingdom	38.9	19
United States	38.0	20
Luxembourg	37.8	21
Greece	36.2	22
Slovak Republic	35.1	23
Ireland	34.7	24
Poland	34.1	25
Spain	33.8	26
Australia	31.5	27
Korea	25.4	28
Mexico	24.7	29
Turkey	21.2	30

Note: Broadband Nirvana = every home and business has broadband.
Source: http://energycommerce.house.gov/cmte_mtgs/110-ti-hrg042407Ford-Testimony.pdf

It's just a horse race

All in all, the sporting contest that OECD rankings most resemble is horse racing: in neither case do the outcomes necessarily indicate anything about the appropriateness of past, present or future policies for realising desired objectives.[4] Whilst the nationalistic competitions that arise from simplistic 'rankings races' might make good politics, improvements in national wellbeing rest ultimately on good policies. Blind pursuit of top rankings is seldom the basis of good policy.

Figure 1: GDP and broadband penetration



Note: Broadband penetration data are from 2006; GDP data are from 2005.
Source: OECD. May 2007. *Monitoring of Broadband Development in the Context of the OECD Recommendation of the Council on Broadband Development* p29

1 For more detail, including how the analysis applies to New Zealand mobile telephone services, see: B Howell. 2007. 'Defiling the Rank: How Useful are the OECD League Tables?' (available at www.iscr.org.nz).

2 See, for example: C Ferguson. 2002. *The US Broadband Problem* (available at www.brookings.edu/papers/2002/07technology_ferguson.aspx).

3 G Ford, T Koutsky and L Spiwak. 2007. *The Broadband Performance Index: A Policy-Relevant Method of Assessing Broadband Adoption Amongst Countries*. Phoenix Center Policy Paper No. 29 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008283).

4 See: 'They shoot horses don't they ...?' *Competition and Regulation Times* this issue p1.

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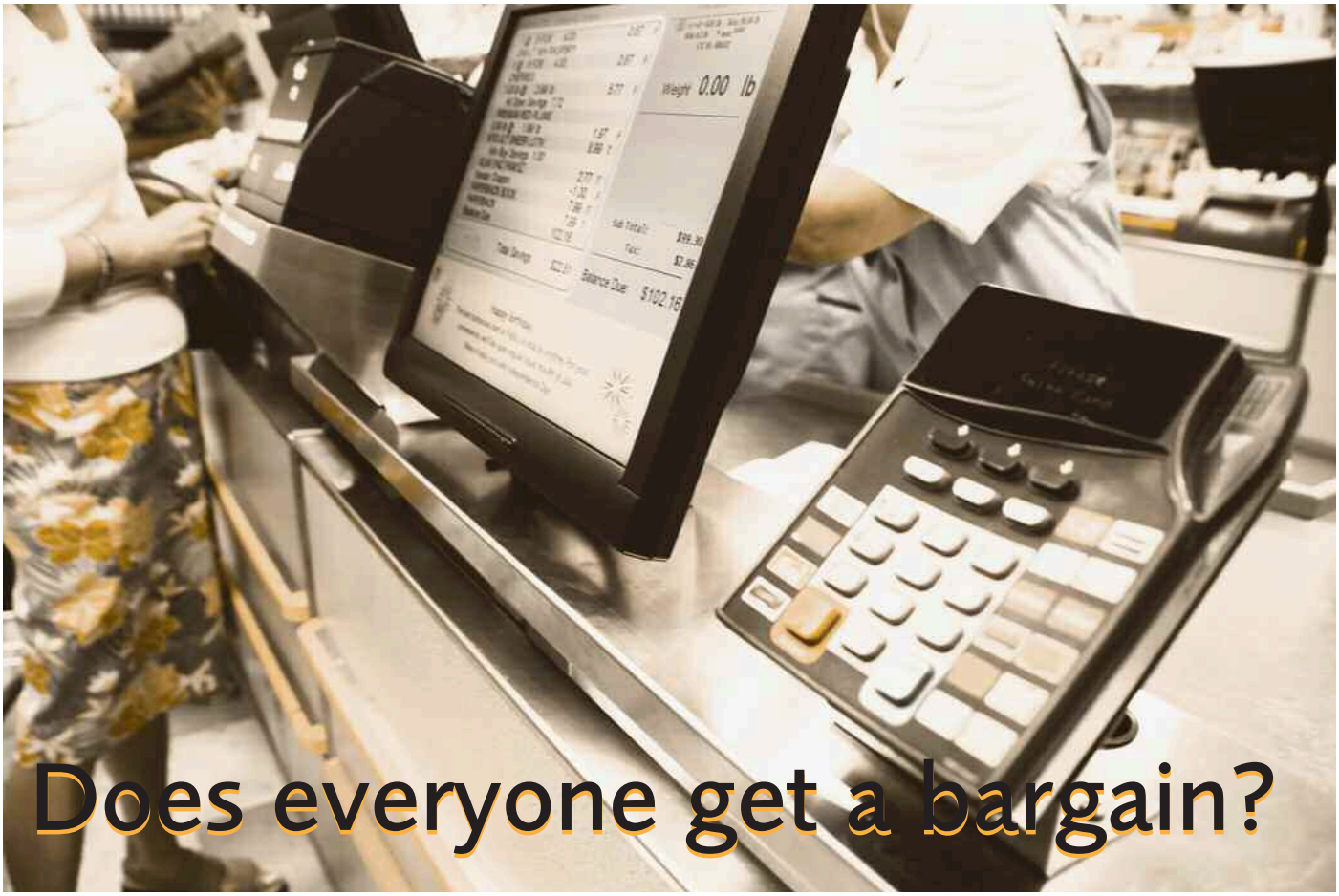

Does everyone get a bargain?

Over the course of 25 years, The Warehouse has grown from a single store in Auckland to a 128- strong national behemoth. In doing so, it has become New Zealand's largest retailer – and its ability to offer consumers a wide range of products at low prices has made it a national icon. But critics argue that this apparent success has come at the cost of significant economic and social problems. Laura Hubbard outlines these claims and assesses their validity by looking at research into similar arguments made about The Warehouse's US counterpart, Wal-Mart.

Despite the popularity of The Warehouse – and that of its founder Stephen Tindall, recently ranked among the 25 most trusted New Zealanders – towns such as Gisborne and Kerikeri have unsuccessfully attempted to stop the retail giant establishing a presence in their area. Ongoing complaints about product quality and safety are sometimes raised, but these are not the heart of the issue. Rather, there appear to be three fundamental concerns, all questioning The Warehouse's impact on communities.

First, it's said, the arrival of The Warehouse in a community hurts small retail establishments that have specialised in products stocked by their larger competitor. The stronger buying power of The Warehouse, together with its ability to offer lower prices and the convenience to consumers of one-stop shopping, squeezes small retailers' turnover and margins – and eventually drives many of them out of business. As a result, the variety and vitality of local retail areas is diminished.

Second, The Warehouse's operating economies of scale, hostility to unions, and adverse impact on small businesses all combine to reduce local employment opportunities. An often-quoted statistic is that The Warehouse destroys nine jobs for every one it creates, although the source of this claim is unclear.[1]

Third, by reducing the opportunity to interact with neighbourhood shopkeepers and by encouraging part-time employment, shift work, and consumerism, The Warehouse has a negative effect on so-called 'social capital' – volunteerism, participation in local events, interaction with neighbours, and general community spirit.

According to this view, as one commentator puts it, The Warehouse 'is spelling the death knell of traditional town centres and community values'.[2] But it is by no means obvious that such a gloomy perspective is warranted, even in theory. Small businesses located near The Warehouse may benefit from the increased retail traffic it generates, while at least some of those that fail may have been doomed anyway. Similarly, the arrival of The Warehouse in a smaller town can encourage consumers to do more of their shopping locally, thus revitalising the local economy and increasing employment opportunities.[3] And the increase in family disposable income generated by The Warehouse's lower prices should allow more time for social interaction with both family and the wider community.

All such claims are largely speculative, however. The net economic and social impact of The Warehouse – particularly on smaller towns and communities – is an empirical issue, but rigorous research on this topic has yet to emerge.

Save money, live better ... perhaps

A similar debate rages in the United States about Wal-Mart, the North American equivalent to The Warehouse. Consumers flock to its low prices, extensive product range, and attractive convenience; but many decry its

effect on small businesses, jobs, and traditional community characteristics. As one commentator puts it, 'America has a love-hate relationship with Wal-Mart'.[4]

In contrast to New Zealand, however, these claims have been subject to in-depth analysis. Three recent studies have examined the impact of Wal-Mart on (respectively) US small businesses, employment, and social capital.[5]

If Wal-Mart has a negative impact on small business activity, then one might expect those states with the greatest Wal-Mart presence to also have the smallest small-business sectors. But exactly the opposite is true: the five states with the most Wal-Marts per capita also have more small businesses per capita than the five states with the *fewest* Wal-Marts per capita. And between 1995 and 2005, the five states that had the biggest growth in Wal-Mart stores also experienced bigger increases in small business activity than the five states with the smallest growth in Wal-Mart stores. Of course, much of this may be due to a common correlation with the health of the state economy, with both types of businesses simply reflecting that economy's growth or stagnation. But controlling for this and other factors leaves the fundamental conclusion unchanged: the overall size of the small business sector is not adversely affected by Wal-Mart.

Nevertheless, Wal-Mart does appear to cause change in the sector, with businesses that sell competing product lines failing and new firms taking on the freed-up capital and labour. High-end eateries and other niche stores are the usual replacements for failed firms, in contrast to the low-cost-produce covered by Wal-Mart. In short, Wal-Mart provides the impetus for a textbook example of creative destruction.[6]

If Wal-Mart lowers employment opportunities, then retail employment levels should eventually fall in areas where a new Wal-Mart opens. But evidence suggests otherwise. In counties where a new Wal-Mart store was set up between 1977 and 1998, a comparison of retail employment levels before opening with employment at various dates after opening reveals the following outcomes:

- an immediate increase of approximately 100 retail jobs directly generated by Wal-Mart
- a long-run net increase of approximately 50 retail positions (after five years, lower levels of employment by other firms in the area that compete with Wal-Mart reduces the immediate increase by half)
- no effect on employment in retail sectors that do not compete directly with Wal-Mart, such as restaurants and the automotive industry
- an average decrease of about 20 positions in the local wholesale sector (this results from the increased competition in local wholesaling brought about by Wal-Mart's vertically-integrated structure).

> (The) Wal-Mart experience suggests that one should be wary of excessively pessimistic arguments. Dynamic responses to the entry of a large-format retailer tend to negate most of the negative effects ...

Because a Wal-Mart store represents, on average, less than two percent of total county employment, the net effect of these outcomes on local employment levels is statistically indistinguishable from zero. Nor are there any observable spillover effects – total employment in neighbouring counties is unaffected by the opening of a new Wal-Mart. Overall, Wal-Mart does not seem to have a large impact on national employment, and what effect there is appears to be positive.

If Wal-Mart diminishes social capital, then measures of this variable should be lower in communities with a store than in those without. And this indeed seems to be the case: 13 of 17 measures of social capital (including the number of non-profit organisations, voter turnout, sports participation, and volunteer activity) are on average lower in US counties that contain at least one Wal-Mart than in counties that contain none. However, many of these differences are small and in any event are subject to a 'reverse-causality' problem – that is, communities with high social capital may be better placed to resist the entry of Wal-Mart.

Once this problem is controlled for, the original result disappears. Twice as many (6 versus 3) measures of social capital are actually greater in the presence of a Wal-Mart, while the remainder reveal no Wal-Mart effect whatsoever.

The bottom line

Evidence on the economic and social impact of The Warehouse on New Zealand communities is thus far limited to anecdotal, political, and self-interested claims. But US research into the very similar Wal-Mart experience suggests that one should be wary of excessively pessimistic arguments. Dynamic responses to the entry of a large-format retailer tend to negate most of the negative effects – and suggest that consumers, in voting with their feet to the doors of The Warehouse, may well have got it right after all. Of course, none of this excludes the possibility that giant retail chains can have adverse consequences in other areas (such as the ethical dilemmas created by selling food produced through the use of intensive agriculture methods). But it does indicate the need to be sceptical about their impact on the 'usual suspects'.

1 Wikipedia. 2007. 'The Warehouse Group.' (http://en.wikipedia.org/wiki/The_Warehouse#Criticism).

2 M Ward. 2003. 'Big Box Opening a Can of Worms' (available at www.greens.org.nz/PR6387.html).

3 For survey evidence on this phenomenon, see: W Low and E Davenport. 2003. *The Warehouse Group's entry into small town New Zealand: an example of renewing the 'social licence to operate'* (available at http://saanz.science.org.nz/low.doc).

4 W Beaver. 2005. 'Battling Wal-Mart: how communities can respond'. *Business and Society Review* 110 (2) pp159-169.

5 R Sobel and A Dean. 2007. *Has Walmart Buried Mom and Pop? The Impact of Wal-Mart on Self Employment and Small Establishments in the United States* (http://ssrn.com/abstract=986362); E Basker. 2005. *Job Creation or Destruction? Labor-Market Effects of Wal-Mart Expansion* (http://ssrn.com/abstract=371102); A Carden, C Courtemanche and J Meiners. 2007. *Does Walmart Reduce Social Capital?* (http://ssrn.com/abstract=995538).

6 For a New Zealand perspective on this process, see: J McMillan and S Videbeck 'Creative destruction alive and well in New Zealand' *Competition and Regulation Times* issue 16, p3; D Law, N McLellan and R Buckle 'Creative destruction and productivity growth' *Competition and Regulation Times* issue 18, p6.

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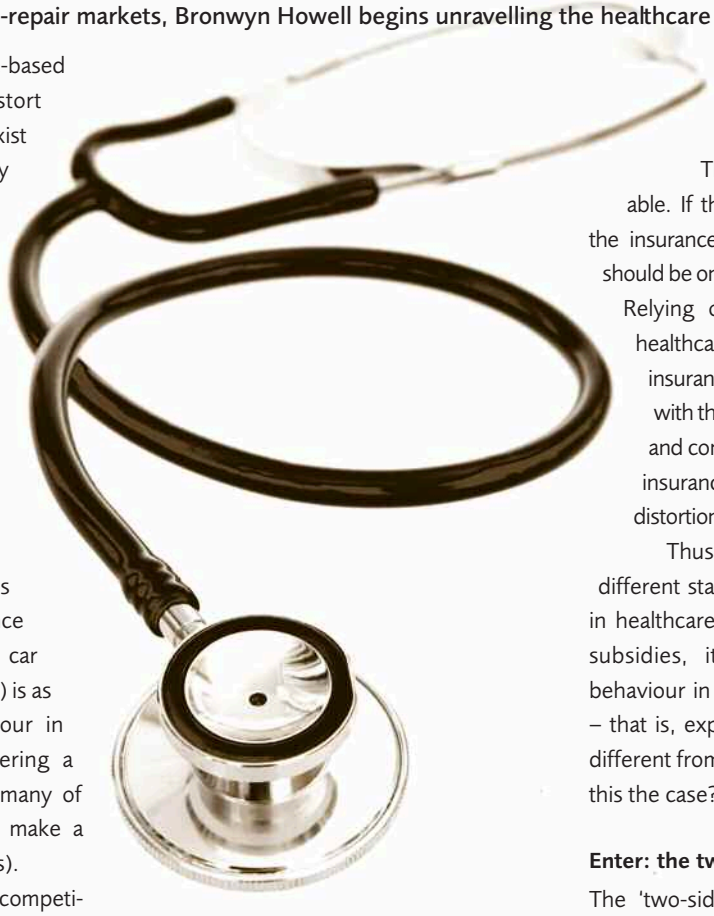
UNRAVELLING A RIDDLE
the healthcare enigma

Why does society appear to tolerate less-competitive behaviour amongst medical practitioners when it doesn't do the same for panelbeaters? The explanation typically offered in health policy literature is that extensive treatment-subsidies provided by governments and insurers make healthcare markets fundamentally different, resulting in over-much care being consumed by individuals who do not pay its full cost. Consequently, if there is a relaxation in competitive standards resulting in higher prices to patients, then consumption will fall to a level much closer to the unsubsidised optimum. By comparing and contrasting the health/vehicle insurance and healthcare/vehicle-repair markets, Bronwyn Howell begins unravelling the healthcare competition enigma.[1]



Whilst undoubtedly insurance-based treatment subsidies distort demand for health care, distortions exist in other markets funded primarily by insurance – but without calls for leniency. Panelbeaters also provide services to the victims of unforeseen, unpredictable, costly and calamitous events who have prudently insured themselves to minimise personal financial stresses should the unwanted eventuality occur. The moral hazard of consuming over-much panelbeating in the presence of insurance (such as getting unrelated scratches tidied up and billed to the insurance company when you're having your car repaired after a more serious accident) is as real a possibility as similar behaviour in healthcare insurance (such as ordering a clutch of complex laboratory tests, many of which are not strictly necessary to make a diagnosis of the presenting symptoms).

Rather than petitioning for less competition amongst panelbeaters, vehicle insurers have employed substantial contractual and institutional constraints in order to better align panelbeaters' actions (and thereby the sizes of insured crash-victims' claims) with efficient insurance-market operation. For example, costs are constrained by authorised-repairer agreements (which reward providers who do not engage in cost-increasing behaviour), price-and-volume contracts, and other incentive arrangements. Vehicle insurers *welcome* vibrant competition amongst panelbeaters: it generally leads to lower prices, as well as incentivising innovation and investment in quality improvements along with new welfare-enhancing products and services. Surely, then, health insurers could also be expected to advocate for increased, rather than less, competition in provider markets? Competition amongst providers *should* become more desirable when insurers/funders make greater use of supply-side cost-sharing arrangements such as managed care, budget-holding and capitation contracting. Amongst health policymakers, however, a preference for laxer competitive standards in healthcare provision still prevails.

Locating the distortion

It is possible that distortions arise in healthcare markets not as a consequence of subsidies for sick people (to pay for care) but from subsidies given to well people (to purchase insurance/risk-management cover in the first place). Government and employer health-insurance subsidies insulate individuals from bearing the full cost of their risk management, whereas vehicle owners collectively must dip into their own pockets to pay the entire costs of their cars' cover.

Significantly, the distorting subsidy occurs in a completely different product market (risk management) from the one where the benefits are spent (care delivery/vehicle repair). This appears intuitively unreasonable. If the subsidy distortion arises within the insurance market, then logically the onus should be on finding a resolution in that market. Relying on competitive leniency in the healthcare-delivery market to 'solve the insurance problem' may actually interfere with the incentives for insurers, regulators and competition authorities to address the insurance-market issues that create the distortions in the first place.

Thus, if there is a valid argument for different standards of competitive behaviour in healthcare as a consequence of insurance subsidies, it would appear to relate to behaviour in the healthcare-insurance market – that is, expectations for health insurers are different from those for vehicle insurers. But is this the case?

Enter: the two-sided market

The 'two-sided' characteristics of insurance markets can provide insights here.

Two-sided markets – which have two different customer types who interact via a coordinating platform – typically arise because of network effects: the more members there are, the higher members' mean welfare is. In addition, the platform operator must have the ability to adjust prices charged to each customer type so that the maximum network effects are captured.

Because the value of the platform to customers on one side depends on the value of the platform to those on the other side in a manner that individuals cannot directly appropriate without the platform, careful allocation of the costs amongst the different customer groups is essential to maximising welfare. And welfare is greatest when the prices charged to the two different customer types are not based on marginal cost (marginal cost being the 'competitive standard').

Health-insurance platforms balance the demands of two distinct customer types: those seeking risk-management cover in the event of falling ill in the future (risk-management seekers); and those who have actually fallen ill and are seeking benefits (benefit seekers). Network effects lie at the core of insurance markets: with more and more individuals seeking risk-management cover, uncertainty commensurately diminishes. The platform operator can predict with increasingly greater confidence the likely costs of benefits required to be paid to those who actually fall sick and need care, can set with increasingly greater accuracy the premiums charged to risk-management seekers, and can have increasingly greater certainty about the benefits able to be offered to those falling ill. Generally, the more members a plan has, the more desirable that plan becomes – both to risk-management seekers (who know that having more members leads to lower transaction [uncertainty] costs) and to benefit seekers (who have greater certainty that the financial wherewithal exists, via a larger premium base, to underwrite their claims).

The more the merrier

The key to realising network effects is to attract the largest possible number of risk-management seekers. If charging arrangements are such that they dissuade risk-management seekers from joining, then network size falls and welfare is lowered. The sensitivity (demand elasticity) of risk-management seekers is paramount. If they are very price sensitive (if demand is elastic), then a small increase in charges will lead to a big reduction in platform size. In this case, it may be better to charge all the transaction costs of operating the platform (that is, all costs associated with collecting premiums and allocating benefits, but not the actual wealth-transfers themselves) to benefit seekers – for example, in the form of a deductible or excess on claims. In other words, normal competitive standards might need to be relaxed to allow the insurer to favour risk-management seekers. However, if large changes in charges can be made with negligible effect on network size (if demand is inelastic), then the locus of costs may not be so important – welfare may be maximised using marginal cost pricing on each side of the platform.

Over-consumption also affects network size. If benefit seekers demand more than their efficient share of benefits, then the premiums charged to all risk-management seekers must rise to cover the greater costs of compensation paid. The more elastic the risk-management seekers' demands, the greater the reduction in platform size (and network benefits) and the less likelihood of marginal cost pricing being able to deliver maximum welfare.

Through the looking glass

Charging deductibles to benefit seekers thus assumes a very different role under two-sided platform thinking than under conventional contract theory. Contract rationale suggests the deductible reduces over-much consumption by levying a higher cost on the benefit seeker. In practice, however, deductibles are usually only small relative to the size of the claim (some 10% to 20% of value) and so they cannot fully eliminate over-high consumption. Nevertheless, if the deductible is seen principally as a means of minimising the impact of the benefit seekers' over-consumption on risk-management seekers (by preventing the latter's costs rising to the point where the platform reduces in size and positive network-effect externalities are lost), then the charging of even small deductibles may succeed in maintaining the size and efficiencies of the insurance platform.

This reasoning also goes some way to explaining why deductibles occur more often (or at higher levels) in insurance markets where risk-management seekers pay for their own cover. If their costs are fully subsidised (for example by government), risk-management seekers are perfectly inelastic in their demands – no amount of shifting of costs on to them will induce any change in platform size because their decision to join the platform is totally independent of price. The existence of considerably lower (or no) deductibles levied on benefit seekers in schemes where government or charity funds the risk-management activities (such as England's NHS) is consistent with such cost-shifting ability. Deductibles are much more likely to be charged, and to be larger, in schemes where employers or individuals meet all risk-management costs (as in New Zealand's Southern Cross). If they are to maintain network-size benefits, platform operators must be very much more sensitive to the effects of shifting costs on to individuals whose demand is relatively elastic.

Ironically, two-sided logic leads to the conclusion that a different competitive standard might be warranted in insurance – and that greater leniency is indicated where smaller risk-management subsidies are applied. So perhaps panelbeaters, not healthcare providers, have the best case for laxer competitive standards amongst their insurer/funders?

1 This article is based on: Howell, B. 'Unveiling "Invisible Hands": Competition in Two-sided Healthcare Markets' (available at www.iscr.org.nz/n167,14.html.

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from page 2

Similarly, the probability of a win pool favourite succeeding (winning the race) goes up by 5.3%, while the probability of a place pool favourite succeeding (finishing in the first three) goes up by 2.3%.

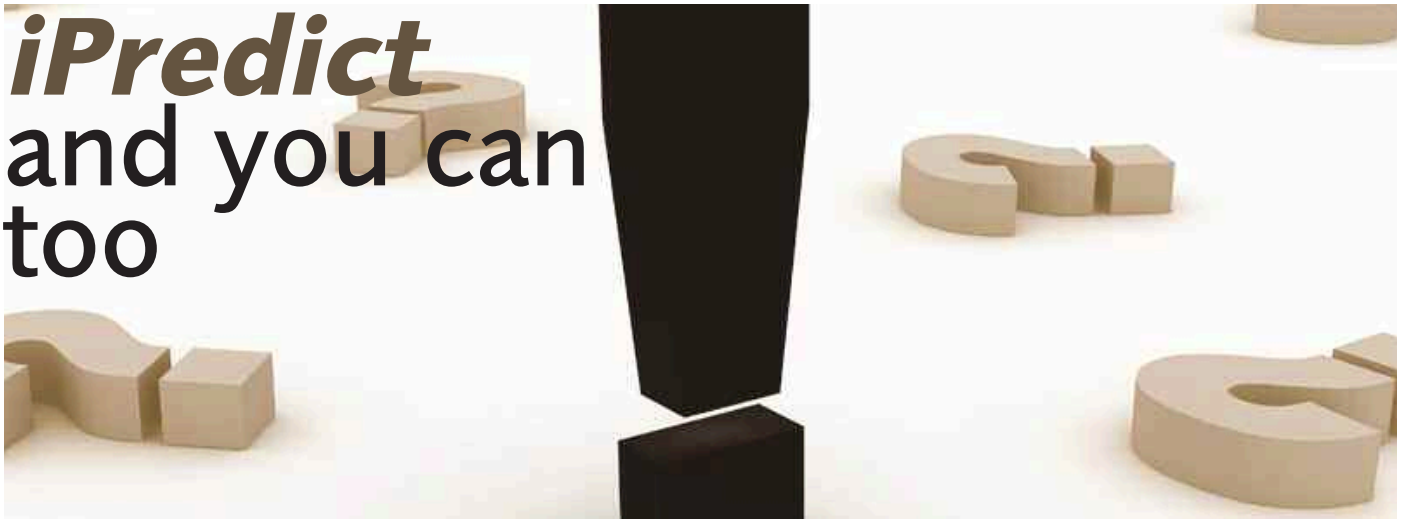
An obvious response to these results is that races with low stakes are also those in which bettors have less information about the abilities of the horses involved, and hence they are less able to handicap such races. As a result, the observed relation between race stakes and the success rate of bettor-favoured horses may simply reflect this information effect, and may have nothing to do with trainer responses to financial incentives. However, eliminating races involving inexperienced horses (about which bettors have least information) from the sample actually strengthens the results described above: greater race stakes lower the average dividends by approximately 50% more than in the full sample.

Never underestimate the power of financial incentives

Experts are in the business of providing quality-oriented services to clients, and are typically subject to professional norms that are often argued to inhibit financial incentives. However, the provision of expert horse training services does not appear to be constrained in this way: trainers place long-term considerations ahead of short-term payoffs when it is in their financial interest to do so, but not otherwise; and in the short term, they allocate effort to where it is most profitable. If one wants to understand an expert's behaviour, look at his incentives.

Glenn Boyle is the Executive Director of ISCR – and an aspiring racehorse owner.

iPredict and you can too



ISCR (in partnership with Victoria University) will later this year launch *iPredict*, New Zealand's first prediction market. While prediction markets have established a strong record in picking election outcomes and Oscar winners, their greatest potential may lie within large organisations. Much of what senior management needs to know about their organisation resides in the heads of its employees – and prediction markets can collect and synthesise that information simply by providing employees with the opportunity to profit from revealing what they know. Matt Burgess describes these public and private roles of *iPredict*.

Prediction markets work. The first such market was the Iowa Electronic Markets, which since 1988 has established a better record than Gallup polls in forecasting the outcomes of US presidential elections. Prediction markets have also succeeded in many contexts other than politics: Florida orange juice commodity futures are better than government weather forecasts, Oscar markets beat columnists' predictions, gas demand markets outdo gas demand experts, and racetrack market odds are more accurate than predictions from racetrack experts.

During this year, *iPredict* will commence operations by offering markets on the 2008 general election. Although the exact form of these markets is yet to be finally determined, some possibilities include:

- What proportion of party votes will be won by each party?
- Who will be the post-election Prime Minister?
- Who will win Tauranga?
- Will ACT win any seats?
- What will the top marginal tax rate be in 2009 if National wins? What will it be if Labour wins?

Invisible hands

Using *iPredict* will be much like using Trade Me, thanks to some clever technology that automates much of the detail in share trading. An automated market maker locates the cheapest shares for sale, or the highest offers for purchase. If the market is illiquid and there's a wide spread between buy and sell prices, the market maker recognises this and will step in to bridge the gap by introducing new shares at the last traded price. For users more familiar with wheeling and dealing in online stock trading, an advanced interface option allows users to see the double auction listing the top ten buy and sell orders. The upshot of all this is that users can get to grips with trading quickly, and the market maker improves liquidity without biasing results.

While the impressive record of prediction markets for elections and other public events makes them ideally suited to a wide variety of entertainment and research uses, they also have considerable potential for use *within* business and government organisations. To realise this potential, *iPredict* will also have a corporate arm that runs internal markets. Organisations can ask questions like:

- What will sales revenue be next quarter?
- Will a project be completed on time?
- What price can we expect to pay for an important input?
- How many will take up our free vaccination offer?
- What will the fiscal surplus be next year?

Everyone wins

While the main benefit of using markets to answer these questions is that they outperform alternative forecasting mechanisms, prediction markets also offer several related advantages. First, they are hard to manipulate: any attempt to do so attracts additional traders seeking to profit from the manipulated price. Second, prediction markets provide a much more efficient way to aggregate information than traditional methods such as business meetings. (They also do something useful with that information – they produce a price.) Third, unlike traditional means of gathering information, prediction markets encourage truthful revelation. Business practices such as quotas and budget setting may discourage individuals from revealing their information, but it pays to be truthful when trading.

A significant number of overseas companies are already operating prediction markets internally.[1] And, in addition to improving forecasting and informing decisions, the rich data produced in these markets are being used in new ways. For example, Google has recently used predictions-market trading data to infer how information flows inside the organisation – and discovered that what traders know is most strongly influenced by where they sit. Position in the organisation hierarchy matters much less, and friendships and demographic similarities between employees hardly matter at all. As a result, and in an effort to improve information flows in the company, Google is removing its cubicles and adopting open-plan offices.

As an earlier *Competition and Regulation Times* article on prediction markets noted, 'if you want to predict the future, ask the market'.[2] Especially if it's the future of your own organisation.

1 These companies include Abbott Labs, Arcelor Mittal, Best Buy, Chrysler, Corning, Electronic Arts, Eli Lilly, Frito Lay, General Electric, Google, Hewlett Packard, Intel, InterContinental Hotels, Masterfoods, Microsoft, Motorola, Nokia, Pfizer, Qualcomm, Siemens, and TNT.

2 G Boyle and S Videbeck. 2005. 'Want to predict the future? Ask the market!' *Competition and Regulation Times* issue 18 p10.

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