



COMPETITION & REGULATION TIMES

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Capping NETWORK PROFITS in a world of bad news

The often-fierce debate that surrounds the amount of profit a regulated monopoly should earn is usually focused on the regulatory rate of return. Why? Because traditional static analysis of regulation suggests that not much else is important. Yet as we know life isn't static, it is very much dynamic. The latest ISCR research from Lewis Evans and Graeme Guthrie looks at the dynamic efficiency of regulation and reveals that an often-neglected piece of the puzzle may be fundamentally important.

The research asks what happens when network firms' profits are capped at a level specified by the regulator, although its insights apply more widely. In practice, the amount of profit allowed usually depends on the hypothetical cost of rebuilding the current network using the best available technology, but sometimes it can depend on the historical cost of building the network – that is, the actual expenditure. The greater the cost of the network, the more profit the firm is allowed to earn. People have focused on the rate of return rather than whether replacement cost or historical cost should be adopted as the cost-base. Yet ISCR's research shows that when looked at dynamically the optimal choice of cost-base is of vital significance.

When a regulator caps a firm's profits, it does not necessarily take away the firm's decision-making ability. The firm chooses what it invests in, and when it invests. Investment can take many forms, from rolling out a new network to maintaining an existing one. In some cases the regulator influences the firm's investment programme, for example by specifying a minimum level of service which must be achieved. However, in other situations the regulated firm still



PHOTO: SOUTHLAND TIMES

enjoys considerable freedom.

Many regulated industries share common features: assets requiring irreversible investments of large amounts of capital and great uncertainty surrounding the future costs and benefits of these investments. In a world full of uncertainty, and requiring irreversible investments in network assets, delaying investment can often be optimal. Even the hypothetical social-planner (that all-knowing hypothetical agent charged with the job

of maximizing overall welfare) is uncertain about the future. Rushing in to adopt a new technology is not necessarily the best thing to do. While the social planner waits, costs can fall and alternative, perhaps superior, technologies can emerge. Waiting allows the social planner to take advantage of declining costs and perhaps avoid the pitfalls of backing the wrong horse in a race between competing technologies.

An unregulated firm faces much the
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MEASURING THE BENEFITS of the Brave New World

We need to take a new perspective, says ISCR's Bronwyn Howell.

In almost every forum academics and business leaders, industry analysts and politicians tell us that we are departing the 'Industrial Economy' for the 'brave new world' and promised economic advantages of the 'Information Economy'. What does this really mean? I take it to mean that the foundations of economic growth are rapidly moving from advantages based upon the ownership and control of physical assets to advantages based upon ownership and use of information assets.

Yet, Solow¹ has observed "we see computers everywhere but in the productivity statistics". Despite our best efforts, measured economic returns to investments in information processing technology have been at best disappointing, and largely confined to information technology-*producing* rather than information technology-*using* industries.

However, in a subtle irony, by focusing on computers as the embodiment of information, Solow's statement unwittingly reveals key insights into this perplexing paradox. Our analysis has been characterised by the perspectives from which we define our economy. We have defined the Information Age not from the perspective of the commodity upon which it relies – information – but from the Industrial Age perspective within which we frame our thoughts: in terms of the machinery that produces and processes this commodity – computers and other technologies, such as fixed and mobile telephony and satellites. While we talk of the 'Information Age', we measure and report the changes as if it were observing the 'Technology Age'. Understanding

these machines has become the focus of analysis, at the expense of understanding what is happening to information.

Information has always been an important component of all production processes. While technologies have changed the costs of creation, acquisition, storage, transfer and dissemination of information, the fundamental role of information in economic processes remains essentially unchanged. What has changed is that lower costs have lowered the thresholds of using information in ways that were previously uneconomic.

Thus the key to understanding the economic gains available in an Information Society lies in understanding how technology changes the ways we use information. The success of strategies aimed at yielding economic gains will be reflected in statistics of technology use only if technology use is an adequate proxy for the use of information – and in many cases it is not. This can result in poor business strategy and bad government policy. Concerns about the slow uptake of broadband provide one example of this confusion. It is generally assumed that the ubiquitous availability of broadband will automatically generate new economic benefits. However, as I have argued previously (see Pipes to Nowhere *Competition and Regulation Times* Issue 7), this will only be the case if consumers appreciate the benefits of the information applications that require broadband technology. Technology availability provided in isolation from the information usage requirements of technology users offers only the potential, but no guarantee of the

EDITORIAL



PHOTO: IMAGE SERVICES

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delivery of, promised economic gains.

In this respect, two pieces of recent ISCR research show how the use of information, rather than the availability of technology, is key to the delivery of economic benefits. In the first,² we show that residential broadband purchase occurs generally only when consumers have purchased and learned the use of Internet applications using modem technologies. to page 11

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WELCOME TO YOUR PUBLIC HOSPITAL

You are now entering a morally hazardous zone. Bronwyn Howell investigates.

Medical insurance contracts, like all other insurance contracts, are bedevilled by two efficiency-reducing incentive-related private information phenomena: adverse selection and moral hazard. That is, people wanting to buy medical insurance cover are either more likely to already have, or be predisposed to getting, a cost-causing illness (adverse selection), and once having purchased the cover, are less likely to take care to prevent getting an illness, or visit the doctor more frequently, because they pay only a small co-payment rather than the full cost of the visit (moral hazard).

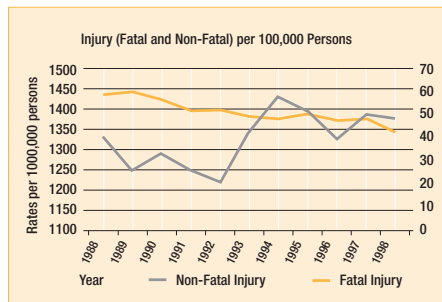
But patients are not the only ones subject to moral hazard actions. Doctors too may change their behaviour once they know a patient has insurance cover, ordering more tests than otherwise as they know the patient does not pay the full cost, or requiring more frequent follow-up visits (the classic case of supplier-induced demand).

New Zealand's Accident Compensation Scheme provides insurance-like cover for the medical costs of accidental injury, so it would not be surprising to find examples of moral hazard on the part of both health care providers and patients as a result of the way in which the scheme alters the incentives facing the participants. For example between 1992 and 1994 the probability of claiming compensation for an injury increased from 1,225 per 100,000 individuals to 1,435 (see graph). This is unlikely to have resulted from a change in the base probability of having an accident, as a fatal accident was no more likely (deaths remained static over the period). The graph thus implies a behavioural change – that is, accidents previously occurring but not claimed for were the subject of claims after 1992.

This could have been due to moral hazard actions either by accident victims or by health care providers. What were the incentives facing each of these parties? In the 1992 legislative reforms to ACC, benefit conditions were changed for accident victims, reducing additional benefits available to unemployed people, thereby eliminating a previous incentive to opt for ACC benefits over unemployment benefits. Hence, it is unlikely

that the increase in the claims was as a result of greater benefits available to patients. This leaves the incentives on health care providers as the other avenue of explanation.

Prior to 1992 all accident victims were required to be treated in government-owned and funded public hospitals. Reforms to ACC announced in 1992, however, introduced the possibility of accident victims having their surgery in private hospitals. And, in the public sector health reforms announced in the Green and White Paper in 1991, effective from 1993, public hospitals were required to act as autonomous business units, balancing inputs and outputs to meet defined financial targets. One of the key performance indicators was the size of waiting lists for specific elective surgical services.



The proposed changes altered the incentives facing hospital doctors and administrators. Whereas prior to the health reforms it was immaterial to the hospital whether an admission was classed as an accident or an illness – as both costs were met from the same budget – the 1992 proposals for elective surgery indicated that in the future, accident treatment could be bought from either a public or private hospital. Public hospital doctors and administrators now faced an incentive to classify all actual and 'dubious' accidents as accidents for the purpose of ACC, as this had the effect of

clearly identifying sources of revenue (ie receiving ring-fenced payments from ACC for individual treatments of accident victims rather than from the capitation budget for a population) and, in the case where elective surgery was required and could be provided by a private hospital, removing the 'accident victim' from the waiting list for surgery at the public hospital, thereby improving the hospital's performance measures.

By 1994, although neither the health sector nor ACC reforms had been fully implemented, hospital behaviour based on information about the proposed changes had settled into a new pattern. The 'probability of claiming for an accident' settled at the new but higher level shown on the graph, where it has remained ever since. These moral hazard actions were a precautionary response to satisfy public hospital objectives in advance of the new legislation becoming operational, that is, classification of patient stated in a way that would advantage public hospitals in respect of their future key performance indicators (waiting list performance measures, meeting financial targets).

As in all markets, new information immediately changed the incentives facing participants and hence their behaviour, even though the conditions that they were anticipating were not fully implemented until 1997.



WHY ARE NEW ZEALANDERS SO WEALTHY? asks Arthur Grimes

GUEST ARTICLE

TABLE 1: Index of Family Wealth and GDP per Capita

Country	Index of Family Wealth	Index of Family Wealth Ranking*	GDP per Capita (PPP) Ranking ⁺
Australia	0.42	6=	12
Austria	0.25	10	10
Belgium	-0.09	18	9
Canada	0.41	8	6
Czech Republic	-0.86	25	25
Denmark	0.49	5	8
Finland	0.22	11=	15
France	-0.15	22	16
Germany	0.20	13	14
Greece	-0.45	24	24
Hungary	-0.87	26	26
Iceland	0.53	4	4
Ireland	0.05	16=	7
Italy	0.12	15	18
Japan	-0.14	20=	11
Korea	-0.27	23	23
Luxembourg	0.32	9	1
Mexico	-1.44	28	28
Netherlands	0.18	14	13
New Zealand	0.22	11=	20
Norway	0.56	3	3
Poland	-1.00	27	27
Portugal	-0.13	19	22
Spain	-0.14	20=	21
Sweden	0.65	1	17
Switzerland	0.05	16=	5
United Kingdom	0.42	6=	19
United States	0.61	2	2

* OECD Programme for International Student Assessment, survey conducted in 2000, www.pisa.oecd.org/

+ United Nations Development Programme, Human Development Report 2001, GDP per capita (PPP, 1999) www.undp.org/hdr2001/

It is commonplace in New Zealand to bemoan our fall in living standards relative to the rest of the developed world. In 1950 New Zealand ranked third in the OECD in terms of GDP per head. That position had fallen to 20th by 1998¹ and recently Spain passed New Zealand relegating us to 21st place. Government has recently expressed an explicit aim to return New Zealand to the top half of the 28 OECD countries in terms of income per head.²

New Zealand's 21st ranking within the OECD in terms of GDP per head (per capita income)³ indicates that New Zealand has a long way to go to achieve the government's aim. Further, that ranking is made on the basis of measures of GDP per head using Purchasing Power Parities (PPP). These measures are intended to adjust for the different cost of living in each country.

While PPP per capita measures are supposedly superior to dollar-based measures, there is reason to doubt their effectiveness in adjusting for inter-country purchasing power. The studies use rather outdated estimates of living costs. Other technical issues (such as the appropriateness of the basket of goods used in the measure) also raise concerns that PPP figures are not always reliable for making cross-country comparisons.

In 2000 the OECD conducted an inter-country education study, the OECD Programme for International Student Assessment (PISA). The purpose of the study was to measure cross-country performance of 15 year old students in the fields of reading, mathematical and scientific literacy. The study involved detailed sampling in each OECD country (and in a number of non-OECD countries) to ensure that the results for each country were a true reflection of standards for 15 year olds across the whole of that country. (Details of the sampling methodology are available on the PISA website: www.pisa.oecd.org/)⁴

One of the factors which might help explain student performance is household wealth. Students from wealthier backgrounds are normally found to perform at higher average

levels than students from poorer backgrounds. To test the influence of this factor, the PISA study supplied a questionnaire to each student covering their access to various items. The items included:

- the availability, in their home, of a dishwasher, a room of their own, educational software, and a link to the internet; and
- the number of cellular phones, television sets, computers, motor cars and bathrooms at home.

Wealthier households were expected to have more discretionary income than less wealthy households and so were expected to be able to acquire more of these high quality goods and services than poorer households.

The availability of these items was used to construct an index of family wealth.⁵ For the OECD countries, this index has an average of zero and a standard deviation of one. It represents an explicit survey-based wealth measure which is consistently measured across all OECD countries and which is standardised for families at a similar life-cycle stage (since each must have a 15 year-old in the family).

The resulting Index of Family Wealth is presented in Table 1 for each country together with the ranking of each country out of the 28 OECD countries. Sweden, United States, Norway, Iceland and Denmark (ie the Scandinavians plus the USA) are ranked as the five wealthiest countries. The six new members of the OECD (Mexico, Poland, Hungary, Czech Republic, Greece and Korea) are ranked lowest. These results accord with intuition.

Three other notable results stand out. Firstly, Australia is ranked sixth equal (with the UK).

Again this result (at least for Australia) is in accord with intuition; on the basis of observed lifestyles, Australia does appear to be a relatively wealthy country. This result demonstrates the high hurdle New Zealanders set when comparing our living standards with those of our closest neighbour.

Secondly, France is ranked the seventh poorest country (it is the poorest country after the six new OECD entrants). The reason for this result may be connected with the reasoning underlying the third result.

The third notable result is that New Zealand is ranked 11th equal (with Finland). It is ranked as a wealthier country than Germany, Netherlands, Italy, Ireland, Switzerland, Belgium and Japan.

Each of these countries, and the aforementioned France, are ranked ahead of New Zealand in terms of GDP per capita, measured using purchasing power parity (these rankings are listed also in Table 1). However, each of these countries suffers from protectionist policies and other forms of regulation affecting access to consumer goods and services. For instance, the Common Agricultural Policy in Europe and Japan's agricultural protectionism make the cost of food – a basic determinant of living standards – much higher in these countries than it is in New Zealand. By contrast, New Zealand's liberalisation programme has delivered low levels of border protection, reduced domestic regulation and increased product choice for New Zealanders.⁶

One explanation therefore for New Zealand's relatively high family wealth ranking is that living in New Zealand is cheap. The cost of living is not raised needlessly by excessive government intervention. Incomes (measured by GDP per head) may not be high, but low living costs associated with competitive markets more than make up for this so as to deliver high living standards.

Independent confirmation of this explanation is indicated by the March 2002 Mercer Human Resource Consulting survey of living costs in major world cities. That survey, which measured the comparative cost of over 200 items, indicated that the cost of living in Auckland and Wellington ranked 140th and 142nd respectively out of the 144 surveyed cities.⁷ Thus incomes in New

Zealand can afford to be much lower than elsewhere and still be consistent with access to high quality goods and services.

The PISA results indicate that the government's target has already been achieved: New Zealand is ranked in the top half of the OECD in terms of family wealth. However we cannot rest easily. If the countries below us were to liberalise their economies, so making the cost of living cheaper for their families, they could leap past us in terms of living standards. Our relative living standards might then more closely reflect our relative earning power as indicated by the GDP per capita comparisons. The rankings won't stand still without New Zealanders continually striving to make ourselves wealthier.

While New Zealand ranks highly on family wealth in overall terms, our performance slips when distributional issues are examined. The PISA study lists the Index of Family Wealth broken down by wealth quartile. Thus we can compare the ranking of each of New Zealand's wealth quartiles with those of the other OECD countries.

In doing so, we find that New Zealand's top wealth quartile is ranked 10th out of the top quartiles of each OECD country. New Zealand's second quartile also ranks 10th amongst the OECD country second quartiles. Both these rankings are ahead of our overall country ranking. The corollary is that our third and fourth quartiles rank 13th and 15th respectively amongst third and fourth quartiles of OECD country wealth. Each of these rankings is below our overall country ranking.

Thus New Zealand has a more skewed wealth distribution than the OECD average. Taking the difference between the Index of Family Wealth for the top and the fourth quartiles in each country as an indicator of wealth inequality, New Zealand is ranked as having the sixth most unequal family wealth distribution in the OECD behind Mexico (the most unequal), Portugal, Poland, the United States and Luxembourg.

Each of the Scandinavian countries combine high family wealth with low inequality. Given this performance, New Zealand still has work to do in order to achieve the aim of both a wealthy and an inclusive society.



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¹ See Maddison, A. (2001) *The World Economy: A Millennial Perspective*. Paris: OECD and Arthur Grimes (2002) *Growing a Healthy Economy*. *IPS Policy Newsletter* 68 9-13.

² New Zealand Government (2002) *Growing an Innovative New Zealand*. Wellington

³ Strictly speaking per capita income refers to GNP per head rather than GDP per head but GDP figures are more readily available and the rankings are relatively immune to use of either aggregate.

⁴ The only OECD country which had a response rate too low to ensure cross-country comparability of educational attainment was the Netherlands, although for purposes of completeness it is included in the comparisons discussed here.

⁵ This approach is similar to the approach used in the recent survey of Living Standards of Older New Zealanders. Ministry of Social Policy, Wellington (2001) which surveyed the access of older New Zealanders to certain items.

⁶ See Evans, L., A. Grimes and B. Wilkinson with D. Teece (1996) *Economic Reform in New Zealand: The Pursuit of Efficiency*. *Journal of Economic Literature* 34(4) 1856-1902.

⁷ See News Release: *Worldwide Quality of Life Survey 2002 - City Rankings*, 8 July 2002 www.mercerhr.com

RULES OF CONDUCT



different conclusions on what is reasonable or justifiable”.⁵ The Privy Council then purported to formulate an original ‘as if competition’ test, along the lines of the Queensland Wire formulation. It is curious that no express reference is made to Queensland Wire in the Privy Council’s judgment, given that the case was canvassed in argument.

Notwithstanding the binding nature of the Privy Council’s ruling, subsequent New Zealand Court of Appeal decisions reflect a continuing restlessness. In *Port Nelson Ltd v Commerce Commission* the Court of Appeal suggested that “it is not easy to see why use of a dominant position should not be determined simply as a question of fact without the need to postulate artificial scenarios.”⁶ Recent case law in Australia, suggesting that undertaking a hypothetical analysis is difficult and may not always be necessary, has provided a further catalyst for the Court of Appeal to repeat these sentiments, and to suggest that some wider rule may be appropriate.⁷

A general monopolistic conduct rule, such as the ‘as if competition’ test, may serve some purpose in straightforward cases.⁸ Outside of simple cases however, there are problems with this particular rule. What is a hypothetically competitive market and is it remotely feasible? The danger is that a perfect contestability standard may be used as the benchmark for a hypothetically competitive market.⁹ But the perfect contestability standard assumes zero entry and exit costs and no sunk and irreversible investments – hardly a feasible counterfactual for situations in which investments are endemic. Without any other clearly articulated model of competition to provide an appropriate benchmark, there will be ongoing theoretical uncertainties surrounding the nature of a hypothetically competitive market.

At a practical level the test is also plagued by the potential for uncertainty. First, how easy will it be to construct a hypothetical competitive model? The German experience with their similar ‘as if competition’ test has exposed the difficulties in constructing such models to the point where the usefulness of the rule has been called into

The difficulty in fashioning rules to draw the distinction between legitimate competitive rivalry and unlawful predation is that both forms of conduct often look alike, says Mark Berry. In this article’ he looks at evolving trends in the analysis of monopolistic conduct.

For close on a hundred years law-makers in many jurisdictions have been searching for an appropriate monopolistic conduct rule. For the moment, Australasian case law is based on an assessment of whether the alleged monopolist would have acted the same way in a hypothetically competitive market. However this ‘as if competition’ test is still in a state of evolution. In the Court of Appeal’s most recent monopoly decision, *Carter Holt Harvey Building Products Group Ltd v Commerce Commission*,² the Court took the opportunity to signal its determination to develop the test beyond the narrow confines of the current rule. So, where have we come from, and where are we heading to?

The starting point, so far as Australasia is concerned, is the decision of the High Court of Australia in *Queensland Wire Industries Pty Ltd v*

*BHP Co Ltd*³ in 1989. The local origins of the ‘as if competition’ test can be traced to this decision. The fundamental question is whether a firm possessed with a substantial degree of power would have acted the same way in a hypothetically competitive market. If the answer to this singular inquiry is yes, then no liability attaches to the conduct in question.

This approach was embraced in the early New Zealand cases, although tensions began to emerge in the course of the Clear/Telecom interconnection dispute. The Court of Appeal in *Telecom Corp of New Zealand Ltd v Clear Communications Ltd*⁴ attempted to expand the test to include a consideration of whether the firm had acted “reasonably or with justification”. However the Privy Council rejected this suggestion because “different minds can easily reach

question.¹⁰ Secondly, assuming the existence of an agreed competitive environment, how readily can a monopolist's conduct be predicted against this hypothetical backdrop? Any objective assessment of the monopolist's past conduct is unlikely to be reliable because of inevitable differences in the market scenarios.

The formulation of principles for the assessment of monopolistic conduct is no easy task. International jurisprudence suggests the possibility of both general and specific rules. For example, in the United States there is a general prohibition against improper exclusionary conduct.¹¹ However the limitations of this general rule have resulted in the emergence of specific, more refined rules in relation to common monopolistic practices such as predatory pricing, refusals to deal, sham litigation and so on. And so in considering the way ahead, it is appropriate to reflect upon both the potential for the enhancement of the current general rule, and for the emergence of specific rules in relation to common practices.

Is the general 'as if competition' test capable of enhancement? The Court of Appeal has suggested two ways this test may be developed. First, in *Port Nelson* it suggested that monopolisation is simply a question of fact. With respect, this statement is unhelpful. Then, in *Telecom v Clear* the Court suggested that there should be an inquiry into whether the conduct should be reviewed to determine if it is reasonable or justifiable. Accidentally, or perhaps deliberately, this suggestion accords with significant recent developments in principle under US antitrust law. The US Supreme Court now recognises that a monopolist may escape liability if it can provide business justification for its conduct.¹² This business justification defence is based upon efficiency considerations. Of course, to establish whether or not conduct is efficient may be difficult in some cases.¹³ However the inquiry is clearly an appropriate one. Significantly, business justification is now also creeping into the Australian jurisprudence. In some cases, in considering whether a monopolist has taken advantage of its market power for a prohibited

purpose, the courts have considered whether there is business justification for the conduct, such that there should be no liability.¹⁴

All of this sounds encouraging for New Zealand. But there is one fundamental problem. The Privy Council in *Telecom v Clear* roundly rejected any need to think about whether the monopolist's conduct was justified. Whether the Privy Council fully appreciated the potential consequences of this rejection is doubtful.

“ THE CHALLENGE WILL BE FOR NEW ZEALAND COURTS TO DEVELOP MORE CLEARLY DEFINED, AND ANALYTICALLY APPROPRIATE, RULES TO COVER COMMON MONOPOLISTIC PRACTICES ”

However, for the time being, it is difficult to see how New Zealand jurisprudence can readily embrace this consideration. And so Australia and New Zealand may follow different paths on this important efficiency defence consideration, notwithstanding recent amendments to the Commerce Act that were designed to achieve parallel developments.

Turning to specific rule formulations, the challenge will be for New Zealand courts to develop more clearly defined, and analytically appropriate, rules to cover common monopolistic practices. Take predatory pricing for example. The current approach taken by the US Supreme Court is to consider whether prices are below an appropriate measure of cost and whether recoupment of losses is likely.¹⁵ This approach has

attracted scrutiny in various jurisdictions, including Australia,¹⁶ where there have been attempts to formulate more informed rules. What the international trends demonstrate is the importance of specific rules. A casual survey indicates that the majority of monopoly cases are decided under specific rule formulations.

This observation leads to a concluding plea to the New Zealand judiciary. Notwithstanding the dislike for the perceived narrowness of the general 'as if competition' test, it is difficult to understand why no attempt is being made to formulate more informed specific rules. Legal acrobatics are not required to overcome the perceived limits of the Privy Council rule. Rather there is the opportunity to develop specific informed rules in the case of most common practices. The courts should seize the opportunity. In so doing they will overcome, in large part, their own concerns about the inadequacies of the current rule formulation. And while it may be unrealistic not to expect some controversy surrounding new specific rule formulations, at least the marketplace will have the benefit of more informed tests against which to assess claims of monopolistic conduct.

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¹ This article is based on an earlier comment published in the May 2002 issue of the *New Zealand Business Law Quarterly*.

² Unreported CA 180/00 5 November 2001.

³ [1989] 167 CLR 177.

⁴ [1993] 4 NZBLC 103,340.

⁵ *Telecom Corporation of New Zealand Ltd v Clear Communications Ltd* [1995] 1 NZLR 385.

⁶ [1996] 3 NZLR 554, 577.

⁷ *Carter Holt Harvey*, supra n 2, para 72.

⁸ See, for example, the facts in *Melway Publishing Pty Ltd v Robert Hicks Pty Ltd* [2001] ATPR 41-805.

⁹ See Hausman, J. (1998) *The Effect of Sunk Costs in Telecommunications Regulation*. Conference Proceedings, Columbia University. 2-3.

¹⁰ For commentary, see Gerber, D. *Law and the Abuse of Economic Power in Europe* (1987) 62 *Tulane LR* 58, 74-77.

¹¹ See *United States v Grinnell Corp* 384 US 563 (1966).

¹² *Eastman Kodak Co v Image Technical Services, Inc* 504 US 451, 483 (1992).

¹³ See Easterbrook, F. *On Identifying Exclusionary Conduct*, (1986) 61 *Notre Dame LR* 972, 978-979.

¹⁴ For commentary on these developments, see Robertson, D. (2001) *Causal Concepts in Competition Law and Economics* 29 *ABLR* 382, 406-08.

¹⁵ *Brooke Group Ltd v Brown & Williamson Tobacco Corp* 509 US 209 (1993).

¹⁶ See eg *ACC v Boral* (1999) ATPR 41-715, paras 159-169; [2001] FCA 30, paras 198, 262-263 (reflecting differing views on whether below cost pricing and recoupment should be viewed as essential elements or useful considerations).

TAXING PRIVILEGE

Proposed changes to the use of legal privilege could reduce the efficiency of tax collection in New Zealand, according to a new paper by ISCR's Bronwyn Howell and Lisa Marriott.¹



The recent government discussion document *Tax and privilege: a proposed new structure*² proposes two key changes:

- an extension to include the clients of other professionals (such as accountants) within the boundaries of those entitled to claim some form of privilege (currently this is extended only to the clients of lawyers); and
- an amendment to the definition of 'privilege' within the context of tax advice. This definition is more limiting than the existing one, where privilege will apply only to opinion on taxation law, and only when claimed (and in some cases by means of application to the court) by the taxpayer client of the tax professional.

Although the proposed change to extend privilege to accountants in matters of tax advice will resolve a current anomaly, provide a level playing field in respect of taxation advice and improve efficiency, the proposed change to the use of privilege will make much of the potential benefit from the first change redundant, according to the paper by Howell and Marriott.

From an economic perspective, the efficient level of taxation collection is not where all tax due is collected but where the costs of collecting additional tax revenue is exactly equal to the additional revenue raised. This implies that at the efficient level there will be some taxpayers who will pay less than the total amount due, but also that some taxpayers will pay more than the total amount due because the costs of obtaining tax advice exceed the benefit to the taxpayer. Accordingly, the authors assess the proposed changes in terms of the likely effect on the efficiency of tax collection in New Zealand – currently regarded as being one of the most efficient regimes in the OECD.

Under the current regime, most factual information is required to be divulged to the IRD, while professional opinions on non-factual matters, such as tax law and related financial planning advice communicated between a lawyer and client, are treated as legally privileged with no requirement for disclosure. Decisions about what is privileged information is generally a judgement made by the client's lawyer, and the onus is on the

IRD to ask the court to view any documents in dispute and make an independent assessment of whether factual content has been withheld under the claim of privilege. If a document containing factual information has been knowingly withheld under claim of legal privilege, professional disciplinary action can be taken against the errant legal practitioner. The penalties and censure that may be imposed on lawyers are many times greater than the benefits from concealing information. The current system thus leads to efficient behaviour on the part of both taxpayers and lawyers because taxpayers can be assured that the advice they pay for will not be shared with other parties, and there is every incentive for lawyers to carefully and correctly distinguish between factual information and taxation advice in claiming legal privilege.

Under the proposed change, the obligation is on the taxpayer to provide all documents to the IRD containing factual information and claim privilege for every document withheld for the opinion content, and the onus is on the taxpayer, not the IRD, to initiate court proceedings to prove

the validity of any disputed document.

The proposed change is a fundamental one – it changes the locus of control over information. A property right confers on the owner of the property the right to decide on who should have access to the property and who can derive benefit from it. As information can be infinitely and cheaply copied, specification of rights of access and derivation of benefit is extremely problematic. Unless safeguards can be designed to protect information from indiscriminate or illegal duplication and dissemination, the increased risk and uncertainty this generates reduces the incentives to create information that is beneficial. This is well recognised with respect to patents and other information products such as trademarks and copyrights. The products of professional consultations, such as the purchase of legal or taxation planning advice, are also information products and subject to the same sort of problems.

Privilege is the means of ensuring that a tax professional providing taxation advice for a client cannot be forced by a third party (eg the courts or a government department) to reveal that information unnecessarily. Without the protection of privilege, there are reduced incentives for taxpayers to commission advice.

The taxpayer is not the only individual with a property right in the information provided to the IRD. The professional adviser, as creator of the intellectual property, may also have some residual rights to the information which may be compromised by the proposed changes. For example, intellectual property that identifies a legitimate tax loophole may alert the IRD to potential future activities which may be precluded via legislative change before any such action has been taken, or before its legal or ethical validity is tested. This allows the IRD to free-ride on the intellectual property that identified the opportunity.

The most likely consequence of the proposed change to how privilege can be used is that taxpayers will withhold information from their tax professionals, which will mean that tax professionals will be unable to advise their clients in a manner that is most beneficial to them as they will not have the requisite levels of information to

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THE TAXPAYER ”

do so. An equally likely scenario is that taxpayers will not consult tax professionals to the same extent, also resulting in lower levels of advice being provided. Poor advice will lead to poorer quality investment decisions.

Further, investors from many other countries (eg, Australia, North America, Europe) who are familiar with the traditional concept of legal professional privilege³ would expect to avail themselves of this same concept when taking advice on investment decisions. When the choice exists between investing in New Zealand, with the potential for the IRD to be provided with essential elements of professional opinions provided, or elsewhere where this is not the case, New Zealand's ability to compete for investment is reduced.

The outcome from any of these situations will result in fewer, or less well-advised,⁴ investment decisions being made which will reduce the efficiency of the entire investment process in

New Zealand, lowering economic returns and hence levels of tax able to be collected.

The proposed change will, theoretically, provide more factual information to the IRD but it is not clear that this will result in greater efficiency. Indeed the reverse may ensue. There are costs to processing more information, and the additional quantity of information provided to the IRD may be substantial. This is because some taxpayers, in order to avoid the additional costs of litigation resulting from claiming privilege, or the costs of seeking advice from a lawyer or accountant about the status of a document, may take an overly cautious approach and over-supply information to the IRD. The proposed change thus shifts the costs of assessing the status of documents from individual taxpayers onto the IRD, and ultimately the entire taxpaying base.

Finally, while there may be some potential for abuse of legal privilege under the current regime, the proposal would remove this potential and create another – potential abuse by staff of the IRD. Currently if a lawyer incorrectly withholds information the lawyer is subject to the profession's disciplinary process. However if information should happen to be used for other purposes by staff of the IRD there are few comparable legal or professional accountabilities.⁵ As the taxpayer is unable to enter into a contract with the IRD, as one does with a tax professional, there is little direct redress available outside of the political process if mistakes are made. The proposed changes thus threaten to compromise both the efficiency of the tax system and the rights of taxpayers.

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¹ This article is based on a paper which will appear in *The New Zealand Journal of Taxation Law & Policy* (2002) 8(4), forthcoming.

² Cullen, Hon Dr Michael. May 2002. *Tax and privilege: a proposed new structure*. Government discussion document. Policy Advice Division of the Inland Revenue Department.

³ Law Commission Report 67. 2000. *Legal Professional privilege and the Commissioner of Inland Revenue's Powers to Obtain Information*, at 47.

⁴ Whilst the tax system is based on the concept of self-assessment the tax acts are recognised to be the most lengthy and complicated acts in the statute books, thus it is not possible for all taxpayers to conform to tax requirements without unrestricted access to professional tax advice.

⁵ It is noted that the State Services Commission does have a code of conduct, although monitoring and enforcement are not at the same level as professional bodies.

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same problem as the social planner, with one crucial exception. Like the social planner, the firm must pay to build the network. However, unlike the social planner, the firm's owners receive only a portion of the total economic benefits flowing from the network. This difference leads to the firm delaying investment longer than the social planner. Consumers see this happening all the time – firms delay adopting new technology or stop maintaining existing networks.

Capping firms' profits compounds this problem. With their profits capped, firms receive an even smaller share of the total surplus generated by their assets. If they are free to choose the timing of their investments, firms will respond by waiting even longer before investing. In addition to this, the research has uncovered other ways in which regulation can affect these timing decisions. Some regulatory regimes lead to even later investment while others can induce the regulated firm to invest earlier than its deregulated counterpart.

When their decisions are irreversible, firms delay acting until there is enough of a buffer to shield them from the arrival of future bad news. This insight, the so-called 'bad news principle', has been known to economists since Bernanke's famous paper in 1983¹. Once the network has been built and the costs sunk, the network owner can receive two main forms of bad news: demand can be lower than forecast, leaving the firm unable to cover the cost of the capital it has invested in the network; and the replacement cost of the network can fall, leaving the firm regretting that it had not delayed investment and taken advantage of the lower cost structure.

Regulating firms' profits alters the severity of the bad news which firms can receive. For example, if the replacement cost falls, not only does the firm wish it had invested later, rather than sooner, but if its profits are capped according to the network's replacement cost, it also finds itself able to earn less profits than it expected. Capping profits in this way actually worsens the consequences of bad news making the firm even more reluctant to invest.

On the other hand, capping profits according to the network's historical cost lessens the severity of some bad news. Under this form of regulation a firm which has invested and then witnesses a decline in replacement cost will be pleased it invested when it did. If this firm had invested any later it would have had to live with a lower, more restrictive, cap on its profits. By

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investing early the firm succeeded in locking in a permanently high level of the cap.

In some circumstances appropriately designed profit caps based on historical costs can actually lead to earlier investment than would be achieved by an unregulated firm. This occurs when the benefits from locking in a profit cap early are greatest. One situation when this can occur is when the network's replacement cost is expected to fall over time; delaying investment is then likely to lead to a tighter profit cap. Better to invest now than later.

Another, less obvious, condition involves the co-movements between the various random shocks affecting the industry. Suppose for example, that technological shocks can occur which simultaneously lower the cost of (re)building

the network and raise the value of the benefits which customers can extract from the network. What is the benefit from investing early, and locking in the profit cap, in this situation? If demand for the network's services increases in the future then its replacement cost will probably fall. Investing early means that the firm's shareholders will get some of the benefit from this gain; investing late means that more of this gain will go to customers. Capping profits according to the network's historical cost thus aligns the firm's objectives more closely with those of the social planner.

One of the surprising findings of ISCR's research is that, at least when it comes to ranking the two forms of regulation, the firm's shareholders and customers are unanimous. If capping profits according to replacement cost is better for shareholders it will be better for customers as well.

Another less surprising finding is that the choice of regulation depends on the precise characteristics of the industry being regulated. In some industries, typically those where the cost of building the network is increasing and where shocks move construction cost and demand in the same direction, replacement cost is the preferred cost-base. In other industries, where cost is expected to fall over time and where shocks push construction cost and demand in opposite directions, historical cost makes a better cost-base.

So as you can see there should be much more to regulation debates than just the level of the regulatory rate of return. We now know that the cost-base also needs its share of the spotlight, as the choice is more crucial than many could have imagined.

For those interested, the relevant paper Efficient Price Regulation of Networks that have Sunk Costs: Should Price-caps be Based on Historical or Replacement Costs? is available from the ISCR website at <http://www.iscr.org.nz>

¹ Bernanke, B.S. (1983) Irreversibility, Uncertainty and Cyclical Investment. *Quarterly Journal of Economics* 98(1) 85- 106.

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Broadband: Why has it taken so Long?

Many telcos around the world have invested in broadband infrastructure on the basis that 'build it and they will come', yet demand has been slow to grow. Bronwyn Howell and Mark Obren investigate.

This slow demand growth is also evident in New Zealand despite having one of the less inexpensive ADSL pricing regimes in the OECD and wide availability of service.

Analysis of Telecom and Xtra's historical data has shed some light on this puzzle. The data provides evidence of diffusion lags in the uptake of broadband – that is, time delays between when a technology becomes available and users purchasing and implementing it. This suggests that the slow growth is not because of supply-side constraints (which has been the focus of governments, regulators and industry observers) but because of demand-side issues.

There appear to be different drivers of growth in broadband in the business and residential sectors. Business users face per minute charging for local calls, residential users do not, which means that dial-up modem access using the public switched telephone network (PSTN) is relatively expensive for business users and inexpensive for residential users.

This suggests that business ADSL uptake is being driven by the substitution of ADSL for dial-up modem access, as the cost of installing and operating ADSL is less than operating the existing modem capital stock. Indeed, the data shows fairly rapid uptake of ADSL by the business sector, with uptake in most regions exceeding 3% by the end of 2001 and average uptake exceeding 5% in February 2002.

The data is also suggestive of an information barrier in the business ADSL market. Regions which receive ADSL services later experience faster initial diffusion than regions which started earlier. Information barriers about how to use a new technology will generally be lower for later adopters.

Residential ADSL, on the other hand, is relatively more expensive than dial-up modem access for home users because they do not face a per call charge for connecting to the Internet. Residential ADSL usage appears to be driven by

learning effects. Residential ADSL users use a wider variety of applications, with heavier bandwidth requirements, than dial-up modem users, suggesting that these customers have 'learned by doing' and, for them, the benefits of ADSL over dial-up modem access justify the additional expense. If this is correct, we could expect residential broadband uptake to increase, as residential customers become more experienced in their Internet use, and as new applications appear that require the capacity and speed of broadband.

However the 'learning-by-doing' effect is not enough on its own to explain slow ADSL uptake among residential consumers. There is also some evidence of information barriers in the residential market. We suspect this may be due to less focussed marketing of products and lower levels of technical support for ICT infrastructure. This factor is partially offset in two niche markets where equal speed is required – Internet gaming and video conferencing. Here network effects appear to overcome the information barrier and encourage ADSL uptake.

The data thus supports diffusion, that is, demand-side explanators for the slow growth of broadband access, rather than a supply-side explanation, such as slow uptake due to market structure.

There are a number of immediate policy implications from the research thus far. The work suggests that:

- pricing does count, so undercutting modem pricing will lead to replacement by broadband;
- building broadband capacity does not mean that uptake will follow as Internet users may not have any need for the additional bandwidth available; and
- information barriers delay broadband uptake but are unlikely to influence the shape of the broadband market in the long run.

A full copy of the supporting paper: Broadband Diffusion: Lags from Vintage Capital, Learning by Doing, Information Barriers and Network Effects is available from the ISCR website www.iscr.org.nz.

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And business broadband purchase occurs faster in regions where broadband was made available later, as the learning of early adopters is shared with later adopters.

In the second,³ we reveal that the greatest increases in the proportion of businesses listing (and hence using) email and website addresses as part of their business operations between our September 2000 and April 2002 surveys occurred in regions where community-based⁴ electronic commerce awareness initiatives have been targeted.

In each of these cases, the key to delivering the economic benefits from the use of an already available technology comes not from merely ensuring its availability, but from the communication of information about how to use it for demonstrable economic benefit.

These findings lend support to a recent OECD⁵ paper that argues that the appropriate role for governments in leveraging greater societal returns from the investment in information technology is by focusing on policies that disseminate information. We are beginning to understand that it is in the uses of information rather than the technologies we have created, that we will find the promised economic and social benefits of an Information Age.

¹ Solow, R. (1987) *We'd better watch out*. *New York Times Book Review* (July 12): 36.

² Howell, B. and M. Obren (2002) ISCR Research Paper. <http://www.iscr.org.nz/research>

³ Howell, B. and L. Marriott (2002) ISCR Research Paper. <http://www.iscr.org.nz/research>

⁴ Including those sponsored by the Electronic Commerce Action Team (ECAT) and Local Government

⁵ OECD (2002) *Broadband Infrastructure Deployment: the Role of Government Assistance*. Paris: OECD.

Vernon Smith – Nobel Laureate

Economists regard him as a frontiersman and it's not just because of his trademark string tie and cowboy boots. Judy Kavanagh explains.

Vernon Smith is the father of experimental economics. He pioneered the use of controlled laboratory experiments to test some of economics' most basic propositions. For his work he has been awarded, along with Daniel Kahneman, a share of this year's Nobel economics prize.

Take the idea that markets tend to achieve price levels at which the market clears, leaving both buyers and sellers satisfied – how does that happen? Economics is not very explicit about this despite market clearing being one of the discipline's fundamental postulates. Smith's experiments stress the importance of institutions – the rules surrounding markets and systems of exchange. It's the rules that make markets work.

However, what Smith has found over thousands of experiments is that even when people have no clear idea of what the rules are or why markets work they are nonetheless very savvy. "I think we're born traders", said Smith, in a recent interview¹ "We're social animals, very much into social exchange. This propensity of humans is very likely what led ultimately to trade and markets that produce wealth".

Putting people in front of a computer terminal and asking them to make bids for items, with no information other than the trading rules, sounds highly esoteric, but Smith's experiments have allowed people to create true markets and rules of exchange where there had been none before – such as in the generation and distribution of electric power – which is now used in New Zealand to organise the wholesale distribution of electricity.

Smith has a close association with this part of the world and he has visited several times (his last visit was as a guest of ISCR in April 2000). His experiments have been instrumental in the creation of wholesale electricity markets and the deregulation of the electric power industry in both Australia and New Zealand.

Economists know that markets are efficient, but Smith's work has allowed economists to design markets and market rules and test them in the laboratory before trying them out in the real world. "We use the laboratory to make our mistakes at low cost – and we make plenty of them", laughs Smith.

Smith and his colleagues are now working on creating a market for the exchange of landing and takeoff slots at airports. When things are going along normally, takeoff and landing slots are fully allocated among the airlines at any given airport, but what happens when bad weather disrupts the normal schedule and the number of takeoffs and landings has to be reduced to half the normal number per hour? What usually happens is that airports stretch out the existing schedule, creating delays at other airports and forcing passengers to miss connecting flights. "What you need", says Smith, "is a market mechanism so that flights with a higher priority get out". This is most likely to be full planes and planes with lots of passengers who have connecting flights. A market for takeoff and landing slots would enable airlines to trade – buy and sell their allocated slots – to allow higher priority flights to take the restricted number of slots.

Lots of people would need to be convinced though to make the market a reality in the United States – the airlines, the FAA and even Congress. Smith worries that Congress won't approve of the idea because airlines would be making money out of slots that had been allocated to them. But that is the beauty of experimental economics – showing people how a market can dramatically improve on what we already have – such as minimising overall disruption to flights across the US when bad weather strikes at one location.

Does Vernon Smith regard himself as a frontiersman? "I did my first experiment in January 1956", says Smith. "When I gave talks away from Purdue² about what I was up to, I could see there were a lot of people who questioned whether this was even economics. These days experimental economics is a growing subfield with international scope. Even Harvard and Yale have some people doing it. They've been very late on board, of course. If it's at Harvard and Yale, you've got to wonder if maybe it isn't time to get out".

¹ All direct quotes come from an interview with Vernon Smith by Mike Lynch and Nick Gillespie. The complete interview can be viewed at <http://reason.com/hod/fe.ml.smith.shtml>

² Purdue University, West Lafayette, Indiana.

