REGULATION OF NETWORK INDUSTRIES

THE CASE OF TELECOMMUNICATIONS

NEW ZEALAND BUSINESS ROUNDTABLE

MAY 1998

This paper was commissioned by the New Zealand Business Roundtable from Bryce Wilkinson, Director, Capital Economics, and prepared with the assistance of Roger Kerr, Executive Director, New Zealand Business Roundtable. It is based on a paper presented on 7 April 1998 to a Symposium on the Future of Competition organised in Wellington by the Telecommunications Users Association of New Zealand.

First published in 1998 by New Zealand Business Roundtable,
PO Box 10–147, The Terrace, Wellington, New Zealand
http://www.nzbr.org.nz

ISBN 1–877148–39–3

Design and production by *Daphne Brasell Associates Ltd, Wellington*
Printed by *Astra DPS, Wellington*

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EXECUTIVE SUMMARY

New Zealand's economic reforms

New Zealand's economic reforms since 1984 have a common theme of greater reliance on open and competitive markets. At the same time government social regulation continues to grow and government expenditure remains high in relation to gross domestic product. No reform programme is ever complete. Change, like government, is continuous.

Recent research[1] supports the view that living standards and the quality of life are likely to be higher in countries that have sustained a relatively high degree of economic freedom. Such research has fueled the worldwide moves towards policies that place greater reliance on open and competitive markets and that promote smaller government.

The problematic nature of antitrust regulation

Antitrust regulation may promote open and competitive markets or it may be used to stifle success. It is problematic for many reasons. These include:

- the static, low transaction cost nature of the model of perfect competition that lies at the heart of the case against a private monopoly. The model focuses on just one of a myriad of reasons why prices might deviate from marginal cost. In fact:
  - even *equilibrium* prices differ from marginal costs for many reasons. These reasons include taxes and the need to ensure that revenues cover costs when there are economies of scale, common costs, joint costs, problems arising from the mixed public/private characteristics of some goods, or other externality problems,
  - in a *dynamic* economy such a static equilibrium is never reached. New events are continuously changing future costs. Transaction costs reduce the speed of adjustment and allow economic rents, in the form of departures of price from marginal cost, to be the norm. Indeed, the quest for such economic rents lies at the heart of the competitive process,
  - deviations between price and (achievable) cost may be much greater in the case of a statutory monopoly because legislated entry barriers impair competition. Furthermore, a government-owned statutory monopoly may have a particularly high cost structure since the incentives to minimise costs may be weak;
- the fact that opportunity costs are often unobservable. This may make it very difficult to even establish that prices depart materially from marginal cost;
- the serious difficulties confronting the alternative approach of using reported profits to draw inferences concerning welfare-reducing monopoly pricing. These difficulties arise because:
  - reported profits do not calculate costs on an opportunity cost basis, nor is this a practical possibility because independent auditors may be unable to verify opportunity costs,

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[1] James Gwartney, Robert Lawson and Walter Block, *Economic Freedom of the World, 1975–1995*, Fraser Institute, Cato Institute and the Institute of Economic Affairs, 1995.

  - high or low reported profits may arise from good or bad luck relative to expected outcomes, not from monopoly pricing,
  - apparently high reported profits may reflect asset valuations that fail to incorporate the value of economic rents that are benign from a welfare-maximising perspective; and
- the adverse and unintended outcomes that usually accompany regulation. Regulation may all too easily:
  - undermine the rule of law by delegating discretionary executive powers far from the supervision of parliament and creating uncertainty as to the incumbent's property rights,
  - sanction excessive costs by allowing prices to be set on a cost-plus basis,
  - reduce value for money by giving the incumbent an incentive to reduce quality while still receiving the regulated price,
  - distort investment decisions in unintended and undesired ways,
  - lead incumbents and competitors to spend resources on socially unproductive lobbying over economic rents,
  - allow regulators to use their discretions to expand their sphere of influence and their command of resources,
  - lead regulators or politicians to make decisions affecting prices, investments and market structures on political grounds given the shortage of objective information.

Compared with a free market situation with well defined private property rights, regulation trades a hoped-for gain in allocative efficiency for the probability of a loss in productive and dynamic efficiency. However, achieving the hoped-for gain in allocative efficiency is far from assured given the difficulties of measuring and interpreting departures of price from marginal cost.

Furthermore, the cost to productive and dynamic efficiency of some of the alternatives to an unfettered private monopoly may swamp the magnitude of any potential efficiency gains. In New Zealand, the longstanding alternative to an unfettered private monopoly has been a state-owned statutory monopoly. A state-owned monopoly is likely to result in a cost-plus environment with significant *ad hoc* political interference in pricing and investment decisions. Emerging from such a monopoly, Telecom was able to reduce its cost structure by 38 percent in real terms between 1987 and 1993, according to David Boles de Boer and Professor Lew Evans.[2] Such gains dwarf the gains in allocative efficiency that might be hoped for from antitrust regulation. In the case of a private monopoly, Oliver Williamson speculates that antitrust regulation might reduce prices by around 10 percent.[3] Furthermore, as Gary Becker argues,[4] the proposition that

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2 David Boles de Boer and Lew Evans, 'The Economic Efficiency of Telecommunications in a Deregulated Market: The Case of New Zealand', *Economic Record*, 1996, 72, pp 24–35.

3 See Alan Bollard, *The Economics of Competition Policy*, Commerce Commission, October 1997, pp 15 and 16.

4 Gary Becker, 'There's Nothing Natural about "Natural" Monopolies', *Business Week*, October 6, 1997, p 12.

telecommunications (or electricity) are natural monopolies is unconvincing (see next section).

Where the monopoly argument is plausible, Milton Friedman has summed up society's imperfect choices as being between an unfettered private monopoly, a regulated private monopoly and a government-owned monopoly.[5] In general, he suggests that, for the kind of reasons outlined above, the first option may be the least undesirable.

Since competitive processes can be expected to eliminate any monopoly profits in time, the case for regulation of monopoly profits is really a short-term one. Arguably, it is greatest during the transition from a statutory, government-owned monopoly to a competitive structure.

Is Telecom a monopoly?

Telecommunications networks do not appear to be a natural monopoly. In New Zealand, entry into the telecommunications market is occurring across all the major components of Telecom's network. More entry can be expected given the evolution of radio wave technologies, convergence with the broadcasting and computer industries and the use of electricity wires for telephone and computing services.

Far from aiming to reduce output in order to raise prices, Telecom's strategy has been to grow sales faster than gross domestic product while cutting costs and prices. During the five years to 1993, Telecom increased its measure of output by 35 percent. Far from being lower under a statutory monopoly, the price of a bundle of output services has fallen in real terms. Consumers in general would surely prefer this situation to one in which there were smaller reductions in prices and costs and lower profits for Telecom.

During Telecom's transition from a statutory monopoly it may have been plausible to argue that the industry structure had some oligopolistic features. With more than 20 companies now competing for the toll call and business markets, such a characterisation of these segments of the market is much less convincing than it might have been, say, five years ago.

Finally, the local residential loop raises two issues. One is how contestible is the local loop. As Becker argues,[6] and as the advent of cellphones and entry by Saturn Communications are illustrating, the local loop is sufficiently contestable to make implausible the view that it is a natural monopoly. The second issue is whether the local loop is being over-priced or under-priced from a national interest perspective. It is possible that the Kiwi share has prevented Telecom from raising tariffs for residential phones far enough to eliminate the cross-subsidies that could be expected under a state-owned statutory monopoly structure. Certainly, more entry into the market would be likely if the removal of the Kiwi share resulted in higher Telecom charges for these services. The government should conduct more work on this issue if it is seen as a policy problem.

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5 Republished by Thomas Horton and Company in *An Economist's Protest*, second edition, 1975, pp 14–15.

6 Becker, *loc cit.*

Was the government's undermining of the Baumol-Willig rule justified?

The Baumol-Willig (B-W) rule establishes a pricing principle for interconnection that is designed to avoid assisting entry into the market by a competitor that has a higher cost structure than the incumbent for the part of the network that the competitor is contesting. In the Telecom–Clear dispute, the Privy Council upheld the rule (*Clear Communications Ltd vs Telecom New Zealand Ltd* [1994]). The B-W rule:

- has a sound rationale – it is necessary but not sufficient for economic efficiency;
- is sufficient for economic efficiency in the absence of welfare-reducing monopoly profits;
- economises on information – it is not necessary to determine the size of economic rents or monopoly profits or losses due to the Kiwi share restriction;
- is 'incentive compatible' – it allows the dominant incumbent to set the prices that it might want to set in the absence of regulation; and
- does not risk confusing benign economic rents with welfare-reducing monopoly profits.

The government undermined the Privy Council's decision by expressing the view that the B-W rule should not be used for pricing access to a network. The government's intervention after the Privy Council decision:

- did not address the critical issue of the existence of welfare-reducing monopoly profits;
- failed to replace the B-W rule with a superior alternative rule;
- thereby removed the greater certainty about property rights secured by the Privy Council decision;
- perpetuated the time inconsistency problem created by a government with a 'hand's-off' philosophy but which repeatedly threatened to intervene if agreement over network interconnection was not reached.

Nor is it clear that a superior alternative to the B-W rule exists, even in the presence of some welfare-reducing monopoly profits. For example, the long-run incremental cost rule is more demanding of subjective information and may result in greater wastage from gaming.

What reform proposals are desirable?

Given the problematic nature of antitrust regulation, it should not be regarded as sacrosanct. The government should keep antitrust regulation under review, in order to minimise its scope for mischief. Reviews of thresholds for triggering an action under the Commerce Act 1986 are relevant here.

The case for antitrust regulation of telecommunications has arguably diminished with the passage of time and the growth in competitive entry into the market since Telecom's privatisation in 1990. In particular, the case for retaining the Kiwi share regulation appears to be weak.

It is undesirable to amend antitrust regulations after privatisation simply on the grounds that an incumbent is making large profits by dramatically cutting costs and expanding sales. This is exactly the sort of gain in producer and consumer surplus that might have been hoped for from deregulation and privatisation. These are not outcomes to be discouraged.

To avoid such time inconsistency and rule-of-law problems, a positive burden of proof must fall on those proposing to amend post-privatisation property rights. Current lobbying for rule changes smacks of self-interest and gaming. In particular, attempts to change the rule at the incumbent's expense by asserting that local lines are a natural monopoly ignore the wider implications of Saturn's entry into the market and fail to rebut testimony that local lines are loss-making because of Telecom's Kiwi share.

Such assertions do not pass the test of overcoming a positive burden of proof. Therefore, the case for rule changes has not been established.

CHAPTER ONE

INTRODUCTION[7]

This paper discusses the regulation of telecommunications in New Zealand in the context of New Zealand's economic reforms in general and its antitrust regulation in particular.

Chapter two comments briefly on New Zealand's economy-wide reforms to date and looks in a little more detail at the broad reform issues ahead. These concern the most efficacious role for government.

Chapter three looks at the rationale for the regulation of monopolies. It takes a comparative institutional perspective. The New Zealand Business Roundtable (NZBR) has taken a close interest in the Commerce Act 1986 since its inception because of its potentially pervasive influence on industry structure and performance.

The Commerce Act 1986 has the potential to curb monopoly behaviour. However, it is also necessary to guard against the adverse consequences of antitrust policies. Antitrust legislation commonly contains the potential for considerable mischief. Assessments of its efficacy depend in part on difficult and subjective judgments about:

- the speed with which competitors will surmount entry barriers using new tactics and technologies in the absence of regulation;
- the degree to which adverse outcomes can be avoided in the presence of regulation; and
- the likelihood of more intrusive regulation in the absence of light-handed regulation.

Chapter four briefly reviews New Zealand's overall experience to date with light-handed regulation of monopoly issues, particularly in telecommunications. In November 1987 the NZBR published a wide-ranging study of the case for reform by Dr John Fountain of the University of Canterbury. It expressed a strong view that:

> It would seem highly desirable to avoid the introduction of an industry-specific regulatory apparatus to monitor or approve prices or other commercial decisions given the inferior track record of such regimes elsewhere. Any dominant firms would be conscious of the possibility of regulatory intervention if they exploited their competitive position. A better approach would be to establish a relatively unregulated environment and to consider constraints if and only if a demonstrated need arose.[8]

This seems to accord closely with New Zealand's approach to these issues to date.

The controversy surrounding the Privy Council's ruling in favour of the Baumol-Willig (B-W) rule has been an important development for the regulation of the telecommunications industry (*Clear Communications Ltd vs Telecom New Zealand Ltd* [1994]). However, the dominant complaint against this decision depends on the strength

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[7] Useful comments on an earlier draft from a number of colleagues including Henry Ergas, David Henderson, Michael Carter and Julian Wright are gratefully acknowledged. None of them bears any responsibility for the contents of this paper.

[8] *Telecommunications in New Zealand: The Case for Reform*, New Zealand Business Roundtable, November 1987, p 98.

of the case that Telecom is making welfare-reducing monopoly profits. Chapter five addresses the evidence and arguments that have been put forward in support of the case that Telecom is earning such monopoly profits.

The first part of chapter six summarises recent proposals for changes to the Commerce Act 1986, starting with the 1991–93 review by officials. It records the positions of the NZBR on various reform options. The second part of this section comments on the government's reaction to the Privy Council's decision on the B-W rule and on some subsequent telecommunications-specific reform proposals emanating from the industry or being considered by officials.

Chapter seven presents some concluding observations.

CHAPTER TWO

NEW ZEALAND'S ECONOMIC LIBERALISATION EXPERIENCE AND OUTLOOK

New Zealand's experience with liberalisation is widely documented.[9] The country's reforms have attracted much international attention and supportive comment from international organisations such as the Organisation for Economic Cooperation and Development (OECD) and the International Monetary Fund (IMF), from reputable journals such as *The Economist*, and from many highly regarded academic economists. *The Economist* has held New Zealand up as a model for others and expressed the view that:

> The country boasts the best monetary- and fiscal-policy frameworks of any country in the world.[10]

A feature of the reforms has been their thrust towards open and competitive markets. Open societies have many enemies, as Karl Popper argued in his famous treatise.[11] The reforms will always have their critics.

At a technical level, there is always scope for proper debate about the details of the reforms. Could the design, timing or sequencing have been better? Undoubtedly the reforms could have been better if important constraints are assumed away. But such discussions are largely academic. Even given some major constraints, people will hold different views about what could have been done better. Some may favour the economic reforms but have varying reservations about, for example, the growth in social and environmental regulation, the rise in social spending or the government's actions in respect of race relations. Others might hold the opposite opinions. As long as the assumed constraints are plausible, this would be a much more interesting conversation, although also a rather academic one.

What might the future hold? First, reform will continue in some form. The collapse of communism is not an isolated event but part of a worldwide process of re-examining the efficacy of big government. Second, change, like government, is continuous. Neither is finite. No economy-wide government reform programme is complete. Tomorrow will bring new information, new technologies and new pressure on existing institutions, laws and regulations. Some people will clamour for a particular policy response; others will oppose it.

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9 See, for example, Lew Evans, Arthur Grimes and Bryce Wilkinson with David Teece, 'Economic Reform in New Zealand 1984–95: The Pursuit of Efficiency', *Journal of Economic Literature*, Vol XXXIV (December 1996), pp 1856–1902; and Alan Bollard and Michael Pickford, *Utility Regulation in New Zealand*, Institute of Economic Affairs Lectures on Regulation, mimeograph, 1996.

10 'Kiwis Turn Sour', *The Economist*, October 19, 1996, p 17.

11 Karl Popper, *The Open Society and its Enemies*, Routledge and Kegan Paul, 1945 and Princeton University Press, 1968.

The only important question, therefore, is which reforms will best serve the community at large. At its most fundamental level, this is a debate about the proper sphere for government action. Expressed differently, it is a debate about the scope of the domain for individual freedom of action and the limits on the power of the state to coerce individual citizens. In the past these debates have often been conducted in terms of natural, or inalienable, rights. These are rights which, it may be argued, cannot or should not be overridden by governments. Nowadays the more fashionable rights-based approach is to assert that individuals should have the government-conferred right to command the resources of others without their consent. Calls for free or subsidised health or education 'as of right' fall into this category.

Neither of these appeals to a higher, if not divine, order of authority will convince the unconverted. A much more fruitful approach is to assess the reforms on the basis of their likely outcomes for the community at large. There is good reason to suppose that the answers take us in the direction of smaller government. Many of the difficulties that New Zealand still faces arise from the major expansion in the role of the state during the past hundred years. However, New Zealand has not been markedly different from many other Western countries in this respect. According to *The Economist* of 6 April 1996, government spending in the industrialised countries rose from around 8 percent of gross domestic product in 1870 to 21 percent by the late 1930s and 43 percent by 1980.

Governments have become progressively more ambitious about what can be achieved by government spending and what the OECD calls 'social regulation' and 'process and administrative regulation'.[12] There are grounds for concern that the effect of increased government intervention has been to reduce overall living standards and to undermine broader values and measures of well-being.

Research by two IMF economists found that countries which had experienced the lowest increase in public spending since 1960 appeared to be more efficient and more innovative, to enjoy a lower level of unemployment, and to have much smaller 'black' economies.[13] They also concluded that rising public spending since 1960 has delivered few social benefits and, in some cases, has harmed economic performance. They suggested that state spending should be reduced to the proportion of gross domestic product that prevailed in the 1960s. (In New Zealand, central government non-finance current spending was around 21 percent of gross domestic product in the 1960s. Today, Crown non-finance current spending is around 28 percent of gross domestic product on a system of national accounts basis.)

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[12] See, for example, Scott H Jacobs, 'Regulatory Reform; Time for Action', *The OECD Observer*, No 206, June/July 1997, p 6. 'Social regulation' is defined as the regulation of the terms and conditions under which goods and services may be produced or sold, usually for the purposes of promoting health, safety, consumer protection, equal opportunity, the environment or similar goals. 'Process or administrative regulation' is defined as the regulations which specify how a government collects funds and imposes form-filling requirements as part of its management of its affairs and allocation of property. Examples include the costs of form-filling in respect of taxes, statistical censuses and the purchase of state-subsidised medical services. These two categories are distinguished from 'economic regulation', which the OECD defines as the regulation of prices and/or quantities of goods used in specific industries.

[13] Vito Tanzi and Ludger Schuknecht , 'The Growth of Government and Reform of the State in Industrial Countries', International Monetary Fund, Fiscal Affairs Department, *IMF Working Paper*, WP/95/130, 1995.

According to a paper published by the OECD in 1992, the estimated combined costs of all forms of regulation in the United States amounted to nearly 10 percent of gross domestic product in 1989.[14] In New Zealand, it is doubtful that any business has the capacity to fully understand or comply with the regulations to which it is subject. The scale of regulation and its dynamic nature are daunting enough,[15] but this problem could conceivably be overcome by sufficient expenditures on professional advisers – if small businesses could afford them. Much more problematic is the fact that many regulations:

- use vague and ill-defined terms whose meaning may take years to be tested in the courts;[16]
- delegate much arbitrary discretion to regulators; and
- are so breathtaking in their scope as to create serious doubts as to the degree to which they will be enforced.[17]

In the absence of a well developed body of case law, professional advisers may be unable to help materially with such problems of interpretation. Businesses and their advisers effectively fly blind.

How much does all this government spending and regulation matter for living standards and welfare more generally? Quantitative research on this question has been impeded by the difficulties involved in constructing statistics that summarise accurately the amount of spending and regulation across countries or across time periods. However, after a major research effort involving 11 institutes, some of the world's top economists and six conferences during the 1986–93 period, three authors under the auspices of Florida State University were able to publish a book[18] that provides, in the words of *The Economist*,[19] "the best attempt yet to define and measure economic freedom". *The Economist* added that the book states "powerful evidence" in support of what it calls the liberals'

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14 John F Morrall, *Regulatory Management and Reform Series No 2, Controlling Regulatory Costs; The Use of Regulatory Budgeting*, OECDE/GD(92)176, Paris 1992, pp 1–29. The costs referred to here are estimated economic efficiency losses for all three of the OECD's categories (economic, social, and process and administrative regulation) plus estimated transfer costs for economic regulation. Economists debate the proportion of transfer costs which should be regarded as a deadweight loss to society because of the resources devoted to rent-seeking activities in the pursuit of wealth transfers.

15 New Zealand governments have introduced over 1,600 new pieces of legislation and 3,600 new regulations in the last decade, according to the Minister of Commerce's office. It is understood that in Hong Kong there are fewer than 1,000 regulations in total that affect business – and some officials regard that number as too high.

16 Any regulation which uses adjectives like 'reasonable', 'equitable', 'appropriate', 'prudent' and 'having due regard to' in order to define lawful behaviour risks generating considerable uncertainty as to what is lawful.

17 For example, the Historic Places Act 1993 makes it an offence to knowingly modify any archaeological site without a permit – and defines such sites to include any place in New Zealand that was associated with human activity before 1900. The fine can be up to $40,000.

18 Gwartney, Lawson and Block, *op cit*.

19 'Economic Freedom: Of Liberty and Prosperity', *The Economist*, January 13, 1996, pp 19–21.

case that "the demise of socialism and of old, state-led, import substitution models of development will bring faster, more sustained growth to countries that keep their economies free."[20] *The Economist* commented that:

> Indeed, the conclusion from this research into 102 countries over 20 years could scarcely be more emphatic: the more economic freedom a country had in that period, the more economic growth it achieved and the richer its citizens became.

[20] Of course many questions can be raised about the accuracy of any broad measures of freedom. See, for example, David Henderson, 'Measuring Economic Freedom and Assessing its Benefits', *Agenda*, Volume 4, Number 2, 1997. More research can be expected on this question.

CHAPTER THREE

HOW STRONG IS THE GENERAL CASE FOR REGULATING MONOPOLIES?

Why antitrust regulation is problematic

Conceptual difficulties

At the intellectual level, the case for antitrust regulation is motivated by a static, low transaction cost view of competition that is far removed from the complexities of the dynamic competitive process as viewed from an Austrian or Schumpeterian perspective.

At the heart of this pristine case for regulating monopolies is the fear that a profit-maximising monopolist will find it rewarding to restrict output so that price is raised above marginal cost in order to equate it to marginal revenue. This situation represents a potential loss of welfare because the value consumers would derive from the forgone production is greater than the savings in production costs. (In technical terms the loss that the difference between the forgone consumer value and the savings in production cost represents is called the deadweight loss from the monopoly. It is defined as the sum of the forgone producer and consumer surplus.) This is the *prima facie* case for regulation.

Even within the confines of this way of thinking about monopolies, difficulties arise immediately because neither marginal cost nor marginal revenue is readily observable. (The problems arising from lack of information are discussed in the next subsection.)

A more fundamental challenge to this case for regulation is that economists recognise many circumstances in which efficient equilibrium prices can be higher or lower than marginal cost. Prices depart pervasively from marginal costs because of taxes and many transaction costs. Equilibrium prices may exceed marginal cost in situations of increasing returns to scale, common costs and joint costs. In addition, a producer of a good with public good characteristics may charge below market cost for that good and recoup the costs of supplying the good by charging above average cost for a related, bundled good. Supermarkets commonly do not charge directly for car parks, for example. Pricing above marginal cost is therefore a necessary, but not sufficient, condition for the government's public policy advisers to be concerned about monopoly pricing.

A more dynamic (Austrian) view of competition sees investment and competitive entry into the market as driven by the producers' or entrepreneurs' search to earn superior returns by:

- better identifying, creating and satisfying consumer demand;
- lowering costs; and
- using new technologies and/or superior contracts to overcome a competitor's entry barriers.

According to this viewpoint, while competition drives prices to track costs, a static equilibrium may never occur. Furthermore, the time it takes competition to force any particular price closer to cost is not readily predictable. Thus departures of price from

cost lie at the heart of the dynamic competitive process, and economic rents spur competitive entry. From this perspective, there may be grounds for greater concern about deviations of price from cost as a result of tax wedges and legislated barriers to competition than about the dynamic divergences that may occur with a private monopoly.

These difficulties with observing and interpreting departures of price from marginal cost no doubt explain why economists and public policy advisers also consider the issue of excessive profits in an antitrust context. The intuitive idea here is that monopoly pricing is acceptable if it is necessary to recover costs, but it is not acceptable if it leads to *monopoly profits*.

However, the concept of monopoly profits introduces further difficulties to the case for regulation. The Massachusetts Institute of Technology's *Dictionary of Modern Economics* treats monopoly profits as *supernormal profits*.[21] It defines supernormal profits as being the difference between revenues and all opportunity costs. O*pportunity cost* is defined as the value of the forgone alternative. Notice that after an investment has been sunk, its value in an alternative use may be very low. If so, its opportunity cost will be very low. The dictionary explains further that supernormal profits are those that exceed the minimum necessary to induce a firm to stay in the business in which it is currently engaged.

The non-economist reader should understand that *normal profits*, defined as the minimum profit a firm must expect to make in order to remain in operation, are included as part of the economist's definition of opportunity cost. A potentially major problem with this definition of normal profits is that it counts economic rents as supernormal profits, yet economists do not regard the earning of economic rents as a monopoly problem. *Economic rent* is defined as the payment to a factor that is in excess of what is necessary to keep it in its current employment.[22]

Economic rents occur everywhere. When assets are more valuable in a current use than in an alternative use, the difference is economic rent. The vast majority of workers probably earn economic rents since it is only the marginal worker who would leave if wages in the employing firm were lowered by one dollar. The world's highest earning professional sports people may earn tens of millions of dollars more each year than it would be necessary to pay them to keep performing in that year. The individuals in successful sports or business teams can also earn substantial economic rents, even if no individual is a global superstar. This is no doubt because the chemistry, skill and know-how that makes a successful team can be hard for competitors to duplicate. The classic textbook example of economic rent is agricultural land that is more fertile and better located than the land being brought into production at the margin. Such 'infra-marginal' land sells at a higher price per hectare than marginal land. Economists do not regard such economic rents, supernormal earnings or monopoly earnings as providing a *prima facie* case for government intervention.

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21 See, for example, pp 291 and 415 in the 1992 edition.

22 Economists also distinguish between *pure economic rents* and *quasi-economic rents*. Quasi-economic rents occur when a product is in demand but its supply is temporarily fixed because of the time needed to increase output. This is the most common source of rent in business situations since output of the same product or a reasonably close substitute can typically be increased in time. Pure economic rents would arise where the product is scarce and there is no prospect of ever increasing output.

In increasing cost situations, infra-marginal competitors will earn economic rents when the market clears with price equal to the (marginal) cost of the marginal competitor. Such pricing causes no efficiency concerns in itself. The same conclusions would hold even in a one-firm industry situation. Here marginal cost pricing would presumably mean that the incumbent was pricing above average cost. By definition, such an incumbent would be achieving supernormal or monopoly profits.

Consider the alternative case of declining costs. Suppose that network economics feature high fixed costs and constant marginal costs (until capacity becomes a constraint again). In this situation, two-tier pricing may allow average cost to be recovered from revenue while prices are set at marginal cost for use. To this point of the analysis there would be no economic rent or monopoly profit. Now suppose that new technologies reduce the replacement cost of the network and its marginal cost. Suppose that the original revenues can be maintained for a while (perhaps in conjunction with a lowering in the unit charge for use offset by an increase in the charge for access) because of the time it would take any competitor to enter the market. Economists might now say that the network was earning (quasi-) economic rents and equate these rents to monopoly profits. However, the incumbent's original investment decision might have been taken on the presumption that such rents would be available to help protect the incumbent against such technological change. Time inconsistency problems would result if:

- the government's public policies allowed the original investment to take place on the presumption that property rights to such rents would be respected, but then moved opportunistically to remove entry barriers when technological change worked against the incumbent's investment; or
- an incumbent is encouraged by public policies to increase profits by cutting costs and growing demand, but those profits are then used to justify public policies intended to expropriate a portion of the incumbent's property rights.

Quasi-economic rents commonly arise from being in the right place at the right time, with a product that is in incipient excess demand during that period and that competitors cannot instantly duplicate. Competitors either face higher unit costs or are offering consumers an inferior product. The incipient excess demand causes prices to rise until the excess demand is removed and the market clears. Due to competitive market pressures, prices may be:

- set efficiently at the marginal user's opportunity cost or at the marginal cost of a higher cost supplier; or
- constrained to a lower level by the marginal cost of a substitute product.

A firm that finds itself enjoying the fruits of excess demand through luck or skill will itself contemplate increasing capacity in order to avoid losing customers to competitors who will be trying to find ways of seizing some of these rents. Even so, superior skill or teamwork may be not much more readily duplicable than is, say, a Michael Jordan. The economic rents earned by individuals in exceptional teams and individuals with exceptional talents (such as Bill Gates) may therefore endure. More commonly, however, the success of a McDonalds or a Body Shop will invoke competitive responses that make those successes very hard to sustain.

Given that economic rents are fundamental to capitalism, it is important to resist the temptation to interpret supernormal profits as evidence of welfare-reducing monopoly

behaviour. Unfortunately, it is not uncommon for both the government's policy advisers and officials to completely overlook this distinction. For example, the concept of economic rent was not mentioned in the glossary of terms in the August 1995 discussion paper on vertically integrated natural monopolies produced by the Ministry of Commerce and the Treasury.[23] Nor was it mentioned in the appendix that discussed Telecom's profitability. Internal departmental papers prepared in February 1996 and released under the Official Information Act 1982 did not draw any distinction between monopoly profits that might result from monopoly pricing and the so-called monopoly profits that might result from economic rents.[24]

Furthermore, reputable economists[25] sometimes define a *monopoly profit* to be absent from any and all of the prices of a multi-product firm if the revenue derived from each one of the firm's products and from any combination of those products does not exceed the stand-alone cost of that product or combination.[26]

In a regulatory context, the implications of this definition of monopoly profit depend on how comprehensively stand-alone costs are defined and measured. To be economically meaningful, stand-alone cost must represent the cost of the forgone alternative. An immediate ambiguity related to timing arises here when some costs have been sunk in irreversible investments. From the investor's viewpoint, the forgone alternative is the return that could have been obtained if the original investment had not been made. However, once an irreversible investment has been made, the opportunity cost of the activity is reduced by the difference between the value of the assets in their existing use and their value in an alternative use. Much of the expenditures on earthworks and poured concrete on a dam for a hydro-electric project would be irreversible. If stand-alone costs are calculated on the basis of post-investment opportunity cost, an investor earning only a normal profit on the original investment might be deemed to be making a monopoly profit on post-investment stand-alone costs. The difficulty is compounded because some irreversible investments, such as those in reputation, are hard to measure.

To this ambiguity of timing must be added the problem of determining whether the correct measure of stand-alone cost is the incumbent's stand-alone costs or someone else's. Is the incumbent's activity marginal or infra-marginal? If, at the margin, society is having to produce power by burning fossil fuels, the opportunity cost to society of not producing power from the hydro-electric station may be the stand-alone cost of a further thermal generating plant. A regulation that attempted to force the price charged by an infra-marginal supplier to that supplier's stand-alone costs would:

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23 'Regulation of Access to Vertically-Integrated Natural Monopolies: A Discussion Paper', Ministry of Commerce and the Treasury, August 1995, pp ix–120.

24 'Should Access Prices be Regulated so as to Remove Monopoly Rents?', February 1996.

25 See, for example, William Baumol, Januscz Ordover and Robert Willig, *Parity Pricing and its Critics: Necessary Conditions for Efficiency in Provision of Bottleneck Services to Competitors,* mimeograph, 1995, p 5.

26 This definition is closely related to the concept of *subsidy-free prices*. These are prices that generate revenues that are greater than incremental cost and lower than the stand-alone cost for any one product or for any combination of profits.

- violate the law of one price;
- require the politicised rationing of these infra-marginal units of supply; and
- invite rent-seeking and opportunistic behaviour – with no offsetting efficiency gains.

The fundamental problem here is that efficient markets require prices to be set at the margin of supply and demand. The stand-alone cost concept directs attention at the cost of the *incumbent's* existing infrastructure. This stand-alone cost may be very different from the marginal or incremental cost of installing additional capacity. In increasing cost situations, estimates of stand-alone cost of existing (infra-marginal) assets are particularly likely to underestimate the marginal cost to society of additional sources of capacity.

For all the above reasons there is a risk that the stand-alone cost test for monopoly pricing could lead to a pro-regulatory bias. The risks of policy error are compounded when reported profits are used in place of expected profits in assessing monopoly profits. Reported profits differ from expected profits because of unforeseen factors. The focus of regulators on reported profits introduces a risk that regulatory interventions will depend on chance. To the economist, inefficient pricing is a concern regardless of whether the monopolist's profits are unexpectedly high or unexpectedly low. A focus on reported profits risks distracting attention from the real issue of assessing which prices might be set inefficiently.

A focus on reported profits may increase further the likelihood of poor policy outcomes when:

- such profits are calculated as a rate of return on appraised values of tangible assets; and
- the appraisal process takes no account of the value of economic rents.

Valuations based on, for example, depreciated replacement cost may take no account of:

- the benefits of location, skill and accumulated, but unrecorded, investments in reputation or goodwill;
- knowledge of the local market; or
- the long-run marginal cost of additions to output capacity.

When used for pricing purposes, such an approach to regulation implies that all the incumbent's economic rents should be expropriated. Such opportunism by the government would adversely affect future investment in such industries.

Of course, the drive for appraised values for assets reflects both the frequent absence of market valuations and the reasonable presumption that market valuations will include any expected profits from inefficient monopoly pricing. An investor can only expect to obtain a normal return from a competitively tendered monopoly activity. However, it is not logical to presume that appraised values will give a more accurate estimate of the market value of the activity in the absence of inefficient monopoly pricing than would unadjusted market values. Unfortunately, the use of appraised values drifts quickly into the regulation of rate of return, with all the widely recognised distortions that this approach induces.

For all the above reasons, there are material difficulties in building a case for antitrust regulation on a profit or rate of return analysis.

The next subsection discusses serious information problems concerning the accuracy of estimated costs and rents, particularly in fast-changing industries. Further information-related difficulties arise from the need to:

- recruit and retain top quality regulators;
- align the regulated firm's incentives with the national interest;
- avoid capture by regulators or special interests;
- limit the erosion of the rule of law, as imprecise language and regulatory discretions reduce certainty about property rights; and
- limit wasteful expenditures on opportunistic rent-seeking activities.

These problems are discussed in the subsection: Public choice theory and strategic behaviour.

Information problems

As outlined above, key difficulties in regulating monopolies are likely to eventuate in practice because the relevant costs that economists wish to measure are opportunity costs, not dollar outgoings. The cost of supplying an extra unit of demand depends on what would have happened otherwise. For example, would a future increase in capacity have been deferred by a given decision? Would a different decision have been taken about a future technology or a strategic merger? In contrast, accounting statements focus on actual and contractually accrued receipts and payments and do not record many decisions on future costs.

Today's expected pricing profile has to cover all current and future opportunity costs arising from the demand response to that price. Assessing these future costs may require a forward-looking, essentially entrepreneurial, judgment about what technologies will prove efficient and what consumers will buy. Entrepreneurs will differ in their judgments about such matters and will be reluctant to disclose their opinions because they rightly regard this information as private and valuable. Such conflicting judgments are best tested in the marketplace, since no court or other regulator can be confident that it has accurately discerned them or has a sound basis for establishing which entrepreneur is the best judge of the future. The judgments of expert witnesses who are not putting their own money on the line are clearly a very imperfect substitute for the contest of the marketplace.

Mandatory disclosure can help reveal current and past outgoings. But no disclosure regime can disclose the future prices and technologies that will prevail in an industry. Nor can a disclosure regime necessarily reveal the extent of any economic rents.

The monopoly issues discussed to this point all involve circumstances where an incumbent's prices are too high relative to costs. However, prices that are allegedly too low relative to costs may be attacked as predatory. In addition, even if no case is made that current prices are too high or too low, antitrust actions can be brought on the basis that a particular strategy may generate the prospect of higher future prices. Thus, the government may scrutinise mergers and acquisitions because of their potential effects on future market dominance. Actions have been taken against Telecom in all three respects. Tying is a further common source of antitrust actions because of the suspicion

that it allows a company with monopoly power in one market to use it to lever itself into another market.

There are grounds for considerable unease about antitrust cases based on claims of predatory pricing or tying. What is concrete about predatory pricing is that consumers derive an immediate benefit and competitors are hurt. The proposition that future prices will be much higher than cost when the competitors are driven out of business is much more speculative. Predatory pricing rules obviously provide scope for anti-competitive complaints by competitors. Similarly, the economic question with tying is how this can harm consumers. If the price charged for the tied products exceeds the value to consumers, consumers will buy elsewhere. Again, successful antitrust actions based on tying bring more obvious benefit to competitors than to consumers.

Such doubts are compounded by the fact that economists commonly lack the information necessary to come to a confident conclusion about the merits of any particular antitrust case. There are many reasons why efficient prices might deviate from cost. Economists do not know all the constraints facing a dominant firm and do not have objective information about critical costs and other parameters. While the firm knows more about these matters than economists, regulators, policy advisers or the courts, there are many sound reasons why outsiders will not be able to share in all this information. Problems of asymmetric information undermine the government's ability to regulate the market fairly.

In the search for a criterion for determining what is undesirable monopolistic *behaviour*, some economists may adopt, by default, a presumption that behaviour that they cannot otherwise rationalise is anti-competitive. However, other economists may be able to develop explanations which suggest that the observed behaviour is efficient. It may be hard to determine whose assumptions are more plausible.

It should be clear from this discussion that it is no easy task to determine whether actual profits that look like supernormal profits in fact reflect exceptional skill, luck, economic rents or monopoly pricing on the part of the supplier. To make an accurate distinction, critical questions to ask are whether the measures of opportunity cost properly account for economic rents and whether the marginal cost of production exceeds average cost.

Public choice theory and strategic behaviour

Competitive business situations are commonly dynamic and complex. Typically very sophisticated models of competitive behaviour can only model some aspects of the situation in a very stylised way. Subjective judgments must be made about the relevance of the model to the actual situation and about plausible values for key parameters. Even the world's leading economists can be expected to hesitate over whether to characterise particular behaviour as an abuse of a monopoly position.

Those with the ability to master the subtleties of these debates will not necessarily be attracted to a career in the public service. Conversely, career public servants will not necessarily be rewarded for developing a sophisticated economic understanding of the issues. The quality of analysis is a potential problem.

Theories of *bureaucratic capture* emphasise that what is important to a government agency is how well it is regarded by those who control its purse strings. In the case of individuals, tenure and promotion opportunities may depend on judgments by their peers or by their political masters about the individuals' sensitivity to political considerations. A 'safe pair

of hands' and sensitive political antennae are always desirable. Regulators who are ultimately appointed and controlled by politicians will therefore be receptive to the judgments of others as to where the public interest lies. Perceptions may matter more than the reality. Within this constraint, the very information costs that make it difficult to determine which action is most in the public interest make it easier for regulators to take decisions that favour the interests of their own agency and/or their own careers.

Politicians who have passed antitrust regulation have bolstered a public expectation that the regulation will be effective. Government officials administering that regulation will be under pressure from the interest groups who supported the regulation and from the media to show that the regulation has teeth. Often the regulators will have recommended the legislation in the first place. This will heighten their desire to be seen to be effective.

In short, regulators do not necessarily get rewarded for making the most objective decisions consistent with economic efficiency. They do have an incentive to make decisions that generate public support, please their political masters and demonstrate that they have teeth.

As indicated in the previous subsection, frequently antitrust regulation has features that competitors could use to harass an incumbent, if they can persuade the regulator to act. It is commonplace in New Zealand to see competitors using legislation that requires a firm to obtain a planning or resource consent to oppose the firm's application. While competitors will see the dominant incumbent as a monopolist, economists may believe the industry is better analysed as an oligopoly. As Michael Carter and Julian Wright have pointed out, the interests of oligopolists are not necessarily aligned with those of consumers.[27] Analysts should be cynical about the motives of industry groups that promote regulation. In particular, the proposition that providers' and consumers' interests are aligned should be critically examined – and determined on its merits.

Where there is a single dominant incumbent, virtually all other interested parties will have an interest in regulatory decisions that transfer wealth from the incumbent. These interest groups include input suppliers, end users and competitors. Politically, the incumbent is simply one against the crowd. The only groups that may support the incumbent are those who are concerned that they could be next, and those who are perceptive and far-sighted enough to realise that unjustified forced expropriations of wealth by governments susceptible to populist pressure are likely to reduce consumer welfare at large by raising the cost of capital.

The incumbent's vulnerability to opportunistic behaviour by competitors, suppliers and end users increases with the size of its sunk investments. Typically, networks are capital intensive and a large proportion of the original investment may be sunk. Given network investments, users invest in projects that rely on access to the network. Often the scope for opportunism results from investments made under government ownership without any contractual protection for the investor or for consumers. Pricing decisions are politicised.

In these situations, political and popular pressure brought to bear on the regulator is likely to be hard to resist. Resources devoted to obtaining a redistribution of rents are a cost to society that may reduce welfare by more than any savings in deadweight losses.

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[27] Michael Carter and Julian Wright, 'Bargaining over Interconnection: The Clear–Telecom Dispute', University of Canterbury, 18 June 1997, pp 1–28.

Only a very naive economist would see the enormous resources Clear and Telecom have devoted to the interconnection agreement as being solely an issue of deadweight losses.

How real are these pressures? Clearly they depend on the situation. But there are grounds for concern. Microsoft, for example, depends for its continuing success on bringing new products and better combinations of products to the market, and persuading an enormous number of people to buy those new products rather than buy a competitor's products or sticking with what they have got. This is a treadmill of daunting proportions given the dynamic nature of the information technology industry and the uncertainties about future technologies and future demand. Yet Microsoft's very success to date in this endeavour could see an increasing proportion of its senior managers' time going into defending the firm from what some observers, such as *Forbes* magazine, fear could amount to legal harassment that more clearly benefits Microsoft's competitors than its customers. *Forbes* reportedly sees the recent federal action in the United States as "only the opening of what could turn into a decades-long war between Microsoft and trustbusters."[28] It reports that Microsoft has been subpoenaed by 11 states, speculates that "The US Department of Justice's ultimate goal may be to permanently dismember future Microsoft operating systems, to boost the chances of Netscape Navigator as an alternative browser", and raises the spectre of a "lynch mob" atmosphere.

Indeed, as the *Forbes* article notes, there are plenty of precedents in which large companies were pursued by antitrust actions but, in the event, market competition removed the perceived problem. The most recent example *Forbes* cites is the US Justice Department's unsuccessful 13-year antitrust action against IBM. A few years after the case was dropped in 1982, IBM was in serious financial trouble as a result of competition from an unforseen quarter.

Further troublesome examples of vigorous but dubious bureaucratic action are found in the field of securities regulation. For example, a recent book by Daniel Fischel argues cogently that the charges against Michael Milken that brought down Drexel Burnham were not robust in terms of the public interest and served the interests of longer-established firms who desired the overthrow of a successful competitor.[29]

From the perspective of law and economics, current antitrust regulation does not conform well with the rule of law. In many situations involving dominant incumbents, firms, consumers, the courts and expert economists cannot readily determine what actions would be regarded as a violation of the Commerce Act 1986. Relative to a situation in which property rights are well defined, lack of clarity about a supplier's right to price a product or to sell a business or acquire another raises transaction costs. Paralysing a dominant incumbent with legal action over such critical property rights could lead to the firm's extinction in a dynamic marketplace. This would be less costly if the incumbent is sleepy and inefficient. But it is inimical to capitalism if it is the most efficient and dynamic firms that become dominant, and they only stay dominant as long as they can excel on the treadmill of competition. Few would argue that Microsoft is sleepy or inefficient.

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28 As reported in John Steele Gordon, 'Trust not the courts but the competitive free market', *National Business Review*, 20 March 1998, p 36.

29 Daniel Fischel, *Payback: The Conspiracy to Destroy Michael Milken and his Financial Revolution*, Harper Business, 1996.

Once a network has been privatised, governments balance the kudos they would get from users and potential competitors from expropriating some of the network operator's sunk costs against the effects of such a decision on the willingness of investors at large to invest in New Zealand in the future. Opportunism can slip into the government's analysis of the problem virtually unwittingly. For example, a note by a Ministry of Commerce official (dated 21 February 1996) released under the Official Information Act 1982 observes that monopoly rents are more costly for New Zealand (and therefore of greater regulatory concern) where overseas investors are involved. However, in the case of Telecom, New Zealanders should have derived the benefit from any such rents when it was originally privatised. The fact that the rents may subsequently be higher or lower than expected no more justifies further regulation than the possibility that the price paid in the absence of any monopoly profits turns out, with the wisdom of hindsight, to have been too high or too low.

Assessment

The previous sections have explained in general terms why antitrust regulation is problematic from the viewpoint of welfare maximisation. In such circumstances, the regulatory structure is likely to depend on the climate of intellectual opinion at the time and the political pressures exerted on the government by what might be opportunistically motivated popular opinion. As such the structure might not be stable through time or across countries. Its current form around the world essentially reflects the growing confidence governments have had in the efficacy of regulation during the last 100 or so years.

A judgment that welfare would be maximised by having no antitrust legislation may rest on either of two propositions. The first concedes that private monopolies or oligopolies can exist, but argues that the costs of legislating against them exceed the benefits – for the sort of reasons discussed above. The second denies that monopoly characteristics are as prevalent as is widely presumed.

While both propositions are controversial amongst economists, each can claim some support at the highest levels of the profession. In favour of the first judgment is one of this century's most respected market economists. In a famous interview for *Playboy* in 1973, Nobel laureate Milton Friedman neatly summed up the dilemma posed for public policy by a private monopoly:

> The problem in this kind of discussion is making a distinction between the real world and the ideal world. For an ideal free market, you want a large number of producers. For an ideal government, you need a saint. In the absence of both you have three choices: unregulated private monopoly, private monopoly regulated by government and government monopoly. All three are bad, but in my opinion, the best of the bad lot is unregulated private monopoly. The ICC and the railroads provide a good example of a regulated private monopoly; the Postal Service is a good example of a public monopoly. Those aren't really appealing cases.[30]

As noted above, the case that antitrust regulation boosts economic efficiency is based on the idea that monopoly pricing misallocates resources. Consumer welfare is lowered because consumers would derive greater benefit from additional output than the cost to

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30 Thomas Horton and Company, *op cit*.

society of that additional production. The economic efficiency case against antitrust regulation is based on the fears that regulation could:

- reduce productive efficiency by rewarding cost-plus behaviour;
- reduce dynamic efficiency by undermining property rights and distorting investment decisions;
- fail to improve allocative efficiency because regulators have neither the information nor the incentive to accurately estimate marginal costs; and/or
- promote opportunistic and socially unproductive rent-seeking activities.

Proponents of efficient antitrust regulation therefore need to make a case that the hoped-for gain in allocative efficiency will occur and that it will be large enough to outweigh any of the other adverse effects on efficiency.

How large are the potential gains in allocative efficiency under a regulated market? Williamson[31] has suggested that, in the case of private monopolies, a monopoly price might be 10 percent higher than a competitive price. As reported by Bollard, under some assumptions concerning market power, the social benefits of a regulation that achieved this 10 percent price reduction would be offset if the effect was to allow productive costs to rise by 3.1 percent or less.[32]

A 3 percent padding of costs is inconsequential compared with the welfare losses that can occur under intrusive regulation of monopoly. Statutory monopolies provide an extreme case of government attempts to protect consumers from the effects of monopoly power. New Zealand's experience suggests that removing the barriers erected in the past around dominant firms and exposing them to competition can produce cost savings and price reductions that would swamp any losses from monopoly pricing of the order of magnitude suggested by Williamson. For example, in a thorough analysis of Telecom's performance between 1987 and 1993, Boles de Boer and Evans found that Telecom reduced its real aggregate network costs, for a given output, by 38.3 percent.[33] This is an average compounded rate of productivity growth of 5.6 percent *per annum*. They also found that the bulk of the increase in consumers' and producers' surpluses accrued to consumers and that most of these stemmed from price reductions on 1987 consumption levels.

Such statistics create a strong case against regulations that could result in a cost-plus environment. While anyone with political power can regulate prices down for a while, it is competition, not regulation, that will in time force prices down in a sustainable manner.

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31 Oliver Williamson, 'Economies as an Antitrust Defense: The Welfare Trade-offs', *American Economic Review*, vol 58, 1968, pp 18–36; and 'Economies as an Antitrust Defense Revisited', in A P Jacquemin and H W de Jong, eds, *Welfare Aspects of Industrial Markets*, Leiden: Martinus Nijhoff, 1977, pp 237–271.

32 Bollard, *loc cit*.

33 Boles de Boer and Evans, *loc cit*.

The second judgment has the support of another Nobel laureate, Gary Becker, who stated in a 1997 *Business Week* article:

> Although claims about natural monopoly continue to influence public policies and academic discussions, this concept has become largely irrelevant to modern dynamic economies. …
>
> Even in telecom and power, new technologies and the global market mean that free competition does the job best.
>
> Old concepts die slowly, but the concept of natural monopoly is no longer of much relevance to economic policy. The sooner we get rid of this dated idea, the better off the average consumer and producer will be.[34]

In the face of such heavyweight opinion, what should be the proper scope of the Commerce Act 1986?

First, much evidence suggests that the most severe monopoly issues in New Zealand arise from government ownership and state legislation. The barriers enjoyed by statutory monopolies may be the most difficult for competitors to overcome. Privatisation and deregulation are the most effective responses to these monopoly issues, but these measures will require time to implement and to take full effect. We need more of both, as discussed in chapter two.

Second, when privatisation and deregulation occur, there is also a transitional issue of assuaging voters' fears about the distribution of economic rents during the life of sunk investments and before vigorous competition has clearly emerged. Typically, state-owned and state-protected monopolies make sunk investments without the protection of long-term contracts with their customers. Similarly, their customers sink investments on the basis of expectations about the future continuity of the pricing policies of these monopolies. Thus a customer's decisions as to whether to locate in the central business district, suburbia or in a more rural location, and whether to use electricity, gas or some other form of heating in the home or factory, will depend on the customer's expectations concerning future transport costs and energy prices.

The returns on sunk investments are economic rents that can be expropriated by the privatised monopoly or a regulator changing prices. Customers fear that an unregulated privatised monopoly will put prices up, removing their economic rents. On the other hand, the investors in the privatised monopolist must worry that competitors and customers will successfully use the coercive power of the government to force prices down and thereby expropriate the value of the incumbent's sunk investments.

Both these fears could be alleviated by long-term contracts between the monopolist and its customers. However, it may be very hard to put those contracts in place on an *ex post* basis, since those who have committed themselves have thereby lost their bargaining power.

Telecom's Kiwi share could be seen as a device for alleviating such transitional fears. But if this were the case it would have been better if the government had made this more explicit at the time. As a practical matter, the difficulties caused by the Kiwi share seem likely to grow with time while the need for it will diminish. History may see it as a transitional measure.

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[34] Becker, *loc cit*.

Third, it is possible that the political pressures for regulation were so strong that if New Zealand did not have light-handed regulation it would have ended up with even more intrusive regulation. Direct government regulation of prices would almost certainly be worse for consumer welfare than current arrangements. This view seems to be widely shared in New Zealand among officials, economists and industry participants.

However, statutory antitrust regulation should not be regarded as sacrosanct. The case for it needs to be reviewed from time to time, as with much other regulation.

CHAPTER FOUR

NEW ZEALAND'S EXPERIENCE WITH LIGHT-HANDED REGULATION

Overall experience

New Zealand's law and policy on competition is usefully summarised in a paper by Bollard and Pickford.[35] The paper categorises what is meant in New Zealand by light-handed regulation and describes New Zealand's antitrust regulation both in general and in relation to telecommunications.[36]

It is speculative to comment on the reasons for New Zealand's adoption of a light-handed approach to regulation, but it may be useful to do so. Since 1984 – when a general election ended an era of extensive and dictatorial control of many aspects of economic activity by government – popular opinion has viewed light-handed regulation favourably. The distortions arising from government price controls were fresh in everyone's experience. Opinion was also influenced by international academic research that pointed to the distortions arising from rate of return regulation in the United States. The alternative approach in the United Kingdom of CPI-X regulation was also recognised as being akin to rate of return regulation. Related academic research highlighted the information difficulties confronting regulators, their flawed incentives, and the likelihood of capture by special interests. This research pointed to a number of dangers from industry-specific regulators.

Given this background, we do not concur with Bollard and Pickford's observation that:

> When the New Zealand regulatory system was designed in the 1980s, it is probably fair to say that there was some under-assessment of the complexities of regulating utilities, especially vertically-integrated natural monopolies. In addition, there was insufficient focus on what the new policy required from the judicial system, and whether the courts would be able to respond to the new role envisaged for them.[37]

Bollard and Pickford's observation implies that more widespread recognition of the information difficulties involved in regulating utilities and a greater appreciation of the role of the courts might have justified alternative arrangements. A contrary view is that a greater appreciation of the information difficulties involved in regulating utilities and of the comparative advantage of the courts would boost support for current arrangements.

On the first point, information problems may be yet more severe than is widely recognised. The inherently subjective nature of the assessment of the future costs of a current decision were explained in chapter three.

On the second point, courts are accustomed to ruling on points of law rather than running businesses. Lacking the specialised role and accumulated information of an industry-

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35 Bollard and Pickford, *op cit*, pp 1–59.

36 *ibid*, p 28.

37 *ibid*, p 52.

specific regulator, the courts may be more reluctant to determine actual prices or to put themselves in the position of being the day-to-day arbiter of commercial decisions. They may also be less vulnerable to interest group capture because their involvement in an issue is so discontinuous, it is not known in advance who will preside, and, because of the courts' more general nature, they lack the incentive of a regulator to justify their existence by proving that any governing antitrust legislation 'has teeth'. These attributes may be virtues if the alternative is an institutional regulator that intervenes more actively without an adequate awareness of the degree to which it is really 'flying blind'.

Bollard and Pickford's paper acknowledges the possibility of strategic behaviour by all parties, including entrants in the market – and observes that such behaviour has occurred. It cogently observes that while the B-W rule may not be optimal in all circumstances, setting an interconnection price lower than this invites entry that may be permanently inefficient. After noting some major real price reductions under this regime and some non-price consumer benefits, the paper concludes that the success of the policy compared with alternative policies may only be judged over a longer term than is yet available.

New Zealand's light-handed regulation has survived to date in telecommunications – in form. But the substance of its survival is more contentious given the government's intervention to force agreement between Clear and Telecom after the Privy Council decision in 1994.[38]

The survival of light-handed regulation in areas of continuing government ownership is more problematic. In the case of government ownership there is no secondary market operating to put a value on the dominant entity's shares. This, and the political and regulatory environment, makes the calculation of the cost of capital for such businesses particularly difficult. For the purposes of constructing a balance sheet, New Zealand has embraced assessed valuations of some electricity utilities and airports based on optimised depreciated replacement cost or deprival value. A similar approach may be taken to valuing the national road network. The optimisation calculations require judgments to be made about the cost of capital appropriate to a regulated environment and the capital infrastructure best suited to the evolution of future demand and future technologies and prices. These are subjective calculations that are best arbitrated by the competition of views in a marketplace, not in the mind of one valuer who is not staking his or her own wealth on the outcome.

The process becomes circular and therefore logically indeterminate when future prices are assumed to depend on the assessed value of an asset. In this case values will have to be determined through political, judicial or bureaucratic processes, taking their implications for future prices into account. This process bears little relationship to the process of price discovery in a market and should be revisited.

A more active programme of privatisation would reduce the pressures for a regime in which prices depend on appraised asset values.

None of this is to argue that anyone would see current regulatory arrangements in New Zealand as being optimal. The NZBR's support for various changes as a result of the 1991–93 review of the Commerce Act 1986 is mentioned in chapter six.

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38 *ibid*, p 39.

Experience with telecommunications

Focusing on telecommunications, the situation in New Zealand appears to be much more healthy than was the case prior to the reforms that began in 1984. Unit prices and unit costs have been reduced markedly. Research by Boles de Boer and Evans has found that there have been significant gains in total productivity. Simultaneously, profitability has been much increased. This should increase public and business confidence in the sustainability of the price reductions in Telecom's products. However, such 'before and after' comparisons tell us little about what might have happened under an alternative regulatory regime.

Given that regulatory regimes differ around the world, some evidence can be gleaned about the success of the New Zealand approach using international comparisons. These may compare:

- unit prices for like products;
- the range of services; and
- user satisfaction.

All such comparisons have to be treated with some care for many reasons, including the need to allow adequate time for the relative effects of different regimes to be revealed.

Professor Henry Ergas has compared the regulation of telecommunications in New Zealand with that in Australia in terms of the criteria listed above. The Australian scheme involves an industry-specific regulator and is more complex, involving more pages of legislation and more staff, than New Zealand's approach. He summarises his findings:

> Although there are serious measurement difficulties, available evidence suggests that productivity has increased more rapidly and overall consumer prices have decreased more rapidly in New Zealand than in Australia. Prices now appear to be lower in New Zealand, especially for business customers. There has been a greater degree of tariff rebalancing in New Zealand with large increases in residential access rates and very steep falls in long-distance rates. The percentage of all households with a phone is about 96% in both countries and the penetration of telephones in low-income households in New Zealand has not been significantly affected by the relatively high access rents.
>
> Life has been extremely difficult for the new competitors in New Zealand, not having any assistance from the regulatory regime. In Australia, the duopoly environment in the fixed network (until 1 July 1997), and industry-specific regulation, have given protection to the new competitor. Nevertheless, the market share lost by TCNZ to competitors (principally Clear Communications) has not been greatly different from the share lost by Telstra to Optus.
>
> It can be argued that market share is not necessarily a good indicator of competitiveness. When evaluating the success o[r] failure of the policy, the issue is not market share but efficiency of the incumbent and the benefits to consumers induced by the state of competition. On this basis the 'light-handed' regulation and privatisation policies of New Zealand appear to have been more effective than the 'heavy-handed' regulation of the Australian authorities.[39]

The most commonly cited shortcoming of New Zealand's light-handed regime is the time it has taken and is taking for Clear and Telecom to settle, and adhere to, an

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[39] See the proceedings of the Industry Commission's Sixth Industry Economics Conference held in Melbourne on 10–11 July 1997, pp 4–5.

interconnection agreement. It is regrettable that this issue appears to have yet to be carefully analysed from a game-theoretic point of view, in which the government is one of the players. Telecom has to (ultimately) offer terms of interconnection that do not abuse a dominant position, but the new entrant in the market has the option of refusing them. Telecom and Clear were no doubt uncertain as to what offers the courts would determine were an abuse of a dominant position. The new entrant can either agree to Telecom's initial or subsequent offers, privately negotiate, walk away entirely, litigate, and/or appeal to public opinion and the government to force Telecom to make a better offer. There is nothing Telecom can do to force a new entrant to accept any offer it makes. Nor can it walk away from the ultimate ruling a court might make. The potential entrant's optimal strategy will obviously depend on its assessments of the relative payoffs and probabilities. One consideration in its assessments will be the extent of any sunk investments. Sunk investments represent both a barrier to entry and a target for expropriation of rents by competitors and users. Different potential new entrants could face different payoff matrices and assign different probabilities to outcomes. The costs and benefits to Telecom could also vary from entrant to entrant. In this case, contrary to the prevailing orthodoxy, delay might not be in Telecom's interest.

Game-theoretic analyses could produce insights into why the Telecom–Clear retail interconnection agreement has taken longer to finalise than Telecom's interconnection agreements with BellSouth, Telstra, Saturn, Teamtalk, Compass, WorkxChange and Global One. The model proposed by Darryl Biggar in Appendix C of his paper *Enforcement Issues in the Regulation of Access in New Zealand* (October 1996) is in the spirit of that suggested above. But his model does not recognise the possibility that the entrant can appeal to public opinion or the government, or that the courts may award the new entrant a contract that favours the entrant relative to a 'competitively neutral' contract, or that delay is not necessarily in Telecom's best interests. In short the model recognises the possibility of monopolistic behaviour by Telecom but not the possibility of opportunistic behaviour by other parties. This one-sided assumption naturally results in one-sided conclusions concerning damages.

CHAPTER FIVE

IS TELECOM A MONOPOLY?

Assertions of monopoly profits

The paper by Ministry of Commerce and Treasury officials (1995) simply assumed that Telecom was a vertically integrated natural monopoly. In paragraph 152 of that paper, officials suggested that the natural monopoly elements of Telecom comprised "in particular, the rural network and portions of the residential network". However, the paper made no attempt to establish that Telecom was deriving monopoly profits from these elements. To the contrary, officials acknowledged in paragraph 143 that Telecom's Kiwi share obligations may be forcing Telecom to service some of these customers at below cost. In paragraph 21(c) of Appendix G, officials reported that Telecom had estimated a loss of $100 million per annum from local telephone services, but said that they had information that suggested any deficit was lower. Regrettably, the officials failed to state if this information was inconsistent with the possibility of a deficit. David Gabel has recently published calculations indicating that Telecom is not subsidising the provision of residential or business local services. To the contrary, he finds that these services contribute over $147 million per year to Telecom's fixed common and joint costs.[40] Suella Hanson notes in an introductory essay in this volume that Gabel's reliance on some US data for input costs and some aspects of his methodology raise a question about the robustness of the results.

The Telecommunications Users Association of New Zealand (TUANZ) reports that papers released under the Official Information Act 1982 reveal that "in 1996 Treasury and Ministry of Commerce officials estimated the deadweight loss on the New Zealand economy of profits earned by Telecom to be between $50 million and $250 million per year."[41] The same publication acknowledges that Telecom and the Hon Maurice Williamson have disputed the actual figures. These calculations do not represent the views of either the Treasury or the Ministry of Commerce. It is understood that TUANZ calculated what the deadweight loss would be under what are essentially presumptions about demand elasticities and price excesses. If the validity of those presumptions is not tested, the calculations are hypothetical. The fundamental concern here is that exceptional profits and losses are the norm in a dynamic marketplace and should not be mechanistically attributed to monopolistic pricing as distinct from luck, skill and determination, or measurement errors.

More fundamentally, Boles de Boer and Evans have found that consumers received the bulk of the gains from the increased producer and consumer surplus in telecommunications between 1987 and 1993 and that most of these gains stemmed from price reductions.

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40 David Gabel, 'Is Residential Telephone Service Subsidized? Moving Past the Rhetoric Through an Empirical Analysis of the Cost and Revenue Associated with the Kiwi Share', *Universal Service with Network Competition*, Centre for Research in Network Economics and Communcations, University of Auckland, November 1996, pp 71–102.

41 *TUANZ Topics*, 7 August 1997, pp 1 and 4.

How sensitive is price to quantity?

If total revenue falls by more than the fall in total costs when output contracts as a result of a price increase, a monopolist would not implement such a price increase. Revenue only increases when prices are raised if demand is inelastic (that is, if the quantity demanded falls by less than one percent for each one percent rise in price). Therefore, monopoly pricing is implausible if demand is sufficiently elastic.

Boles de Boer and Evans assumed a constant price elasticity of -0.5 percent for the 1987–93 period. However, this is very much an aggregative presumption. The telecommunications industry today is offering a vast and rapidly changing range of products. Users are being tempted to buy more phones per household (including mobile phones), to talk for a zero per minute charge beyond the first $5 and to use telephone lines for computer-related purposes. While the demand for the first line and the first telephone to a home or business may be inelastic, it seems plausible that the demand for more services is likely to be less inelastic.

Is it Telecom's strategy to hold back on the output of monopoly services?

Telecom's strategy is to increase profits by increasing the volume of sales faster than the increase in gross domestic product. It seeks to do this in particular by increasing its product range and concentrating on value-added services. Boles de Boer and Evans report that Telecom's output, measured by minutes of network use, rose 35 percent from 1987 to 1993. Telecom's share price increases in recent years have been associated with marked reductions in unit costs and increases in the volume of sales (ie the productivity growth documented by Boles de Boer and Evans) in conjunction with large reductions in output prices. The impression is one of rapid change in a dynamic industry.

While no doubt Telecom's volume of sales would increase faster if it reduced its prices even faster, this would be true for any firm in any industry. Given the dynamic nature of the industry, Telecom probably finds it a major challenge to assess the effects of technological change and competitive entry on economic rates of depreciation and on its strategic plan. At times of rapid growth Telecom needs to install enough capacity to be able to maintain service quality even if growth is a bit higher than expected. It would be severely criticised for reductions in service quality or for an abrupt increase in prices to cope with a period of inadequate capacity. On the other hand, it would wish to avoid installing so much capacity that it suffers badly if growth is lower than expected.

Given such uncertainties, it seems unlikely that any regulator could feel confident about a narrow range for estimates of marginal cost. It is plausible that Telecom would regard the exercise of estimating them precisely as unprofitable and therefore academic. Furthermore, it is undesirable that a regulation should penalise Telecom for raising profits by reducing costs. Consumers would surely prefer to have Telecom making profits by lowering prices and costs substantially than have Telecom making smaller profits from higher prices and a smaller reduction in unit costs.

Perhaps the fundamental point here is that a dominant incumbent in a dynamic market is unlikely to be able to distinguish at all clearly between normal competitive pricing behaviour, based on recovering explicit outgoings, common costs and whatever rate of economic depreciation the market might deliver, and monopoly pricing. Neither could a professional economist. This illustrates why antitrust regulation in such markets risks being in breach of the rule of law.

How serious are the entry barriers?

Another indicator of a possible problem of monopoly is evidence that it is too costly for competitors to enter the market to compete away monopoly profits. While it obviously takes time for competitors to enter when protection is removed from a statutory monopoly, it appears that every part of Telecom's telephone network is being contested. Competition for local and international toll calls is intense. *The Evening Post* recently commented that:

> With toll call prices tumbling the most difficult decision facing consumers is which company to choose. … There are now more than 20 companies offering tolls services, and deciding which one offers the best deal for your circumstances is no easy exercise.[42]

Clear competes directly with Telecom for local business connections. Telstra has concentrated on the long-distance business market during the last two years, but has reportedly hinted that it could enter the local market in 1998.

The conventional assumption is that the entry barriers in the telecommunications sector are likely to be greatest in residential and rural areas, where low population densities raise the per capita cost of installing lines. However, this does not mean that monopoly profits are most likely to be found in these areas. Under the original state-owned, statutory monopoly structure, the political power of voters is commonly presumed to explain evidence of the under-pricing of services supplied to urban homes and farmers and the over-pricing of services supplied to businesses. (This is similar to the rates differential imposed by local governments on business premises.) The Kiwi share itself could be seen as evidence of the political power of non-business users, and it may have limited the amount of tariff rebalancing that Telecom could achieve. In this case, competitors would be expected to attack the business and toll call markets first. This could explain why Telecom's competitors have lobbied hardest for government help to enter the business and toll call markets rather than the local lines and rural and urban residential services markets.

Moreover, the presumption that entry barriers are severe for the supply of services for households is undermined by:

- the possibilities provided by wireless telephony;
- the bundling of cable television and telephony;
- the entry of Saturn into the market; and
- the potential for electric power lines to carry telephone and computer signals.

Gary Becker, in the article cited earlier, suggested that cable companies could convert their wires to offer two-way phone services as well as TV programmes if telephone prices made it possible to do so. He says that:

> Companies providing cellular and more advanced digital-wireless phone service would expand more rapidly to offer vigorous competition to the local phone monopolies. Some experts estimate that digital wireless could have well over half the phone market within the next 5 to 10 years, and that they would provide convenient fax, E-mail, Internet and other services (p 12).

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42 'Who Ya Gonna Call', *The Evening Post*, 28 March, 1998, p 15.

Darryl Biggar concedes that:

> Arguably the telecommunications industry does not exhibit 'natural monopoly' characteristics. Instead the access issue in telecommunications arises primarily from 'demand-side economies of scale' under which the value of a network increases [with] the number of subscribers. However, as the resulting access issue is analytically very similar to the traditional problem of access to a VINM [vertically integrated natural monopoly], for consistency of language across industries we will persist in using the 'VINM' terminology for the telecommunications industry.[43]

It is not clear what is meant by "demand-side economies of scale". Could any large firm that offers a 'one-stop-shop' service, compared with smaller, niche market competitors, be regarded as benefiting from 'demand-side economies of scale'? If so, no successful, efficient and fast-growing firm is likely to be safe from antitrust action.

Alternatively, the term "demand-side economies of scale" may reflect a concern that an incumbent network operator has an advantage in the absence of an interconnection agreement because a larger network can provide more calling options than a smaller network. If so, the argument appears to invoke the so-called network externalities effect. Clearly size has many advantages, regardless of monopoly situations. But it also means a major structural commitment to an existing market position that a new technology could make redundant. Competitors who can use new technologies to build smaller networks at a lower cost than the portion of Telecom's network with which they compete may well be able to create a profitable niche from which they can grow their businesses. The history of such giants as IBM, US Steel, United Shoe Co, General Motors and Radio Corporation of America (RCA) shows that markets can overcome the barriers to entry that regulators saw at the time as excessive.

Energetic competitors relish the challenge of overcoming the barriers of service and product quality and range, contractual arrangements, technology, reputation and invested knowledge that a successful incumbent has erected. Thousands of years of human ingenuity have gone into the techniques that competitors use. Breaking down entry barriers through the creation of alternatives is intrinsic to the competitive process. Economists are almost as ingenious in constructing arguments backed by formalised, often game-theoretic, models, that show that such barriers cannot be fully overcome in theory. But perfection in overcoming all barriers is not an operational concept in an imperfect world. Economists should be modest in their presumptions about whether the constraints that they formalise in their models accurately capture reality. As Liebowitz and Margolis argue in a recent article:

> The debate over network externalities is a reminder of more general methodological concerns. It demonstrates that rigor comes in small and incomplete packages. The models of network externality proceed with great rigor from a simple and plausible assumption – that the benefits of an activity depend upon the number of participants – to a variety of conclusions. But these models can not tell whether such a problem is important. After we economists have had our fun, thinking about network effects and considering how social interactions have a similarity to networks, we need to acknowledge that the a priori case for network externalities is treacherous and the empirical case is yet to be presented. Most constructs in economics find their way only very slowly into either public policy or established theory. The construct of network externalities should be one of them.[44]

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43 See Darryl Biggar, *Legislative Principles Governing Access to Vertically Integrated Natural Monopolies in New Zealand*, 1996, footnote 1, p 3.

44 See p 149 in S J Liebowitz and S E Margolis, 'Network Externality: An Uncommon Tragedy', *Journal of Economic Perspectives*, Spring 1994, pp 133–150.

An illustration of this point is the Internet, which is a network of computers that appears to be stunningly successful in meeting a growing user demand, despite the limited number of connected users compared with those connected to a telephone. Likewise, telecommunications systems should be viewed as a system of interconnected networks, not as a single monolithic network.

In its original, uncorporatised form, Telecom was, no doubt, a statutory monopoly. As a privatised, deregulated firm it initially had a substantial inherited market dominance. With the entry of Clear and one or two others, the market contest could be seen as a game with oligopolistic characteristics. Economic rents can be preserved and shared between a small number of competitors – if they can keep the numbers small. Arguably the paper by Ministry of Commerce and Treasury officials (1995) would have been more useful had it analysed the market in these terms. With the growing number of entrants in important areas of service, the oligopolistic categorisation is itself becoming less tenable in relation to those services. However, rent-seeking interest groups do not depend on oligopolistic structures for their arguments and motivations.

None of this is to argue that rents do not exist in the industry or that competition will not pull down prices markedly in the future. To the contrary, vigorous entry is a signal of supernormal profits, at least from the viewpoint of the entrants, who may enjoy newer technologies and lower cost structures.

Telecom must aim to compete by providing a full menu of services to satisfied and loyal customers. As it happens, surveys of businesses that have been used to draw inferences about world competitiveness have rated the New Zealand telecommunications industry highly. Any entry barriers created by customer satisfaction are not entry barriers that regulations should seek to attack.

Which prices are excessive?

In 1997 TUANZ surveyed over 200 users (mainly organisations) for their views as to which of Telecom's services were priced "unreasonably high". Ten percent of respondents from large firms and 14 percent of the other respondents thought none were in this category. ISDN (integrated services digital network) services were most widely viewed as being priced "unreasonably high", but less than 50 percent of respondents held this view in each category. Only 8 percent of respondents from large firms and 13 percent of other respondents viewed prices for local services as being "unreasonably high". This was the fourth lowest level of concern among 10 categories of services.

Given the incentives for over-reporting created by the regulatory game, it is hard to know if the responses concerning ISDN over-pricing give cause for concern. TUANZ has given considerable publicity to a 12 August 1996 Ministry of Commerce finding that New Zealand has significantly higher charges for ISDN services than Australia, the United Kingdom, the United States, Finland and Sweden.[45] Perhaps this information has influenced some respondents. Interestingly, this TUANZ material has not drawn readers' attention to Telecom's original responses to the Ministry of Commerce's finding, pointing out some errors in the calculations and commenting on the specific and general problems of lack of comparability.

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[45] See, for example, *TUANZ Topics*, *op cit*, p 4; and TUANZ note 'Pointers for Reform of the Commerce Act', 24 July, 1997.

Probably the best guide to identifying prices that are excessive is to look at where competitors are focusing on providing services and complaining the most about anti-competitive behaviour. As noted above, this appears to be in the provision of toll calls and business services.

What about complaints about unfair competition by competitors?

As outlined in the NZBR report *Telecommunications in New Zealand: The Case for Reform* (1987), there are a myriad of ways in which competitors can obstruct each other. The intensive litigation between two of the large US-owned firms, Telecom and Clear (eg over Sky TV), illustrates the point well enough. Such litigation may be part of the competitive game, and governments which hesitate to get drawn into this game are to be commended. This is because time consistency is a desirable attribute for public policy, particularly in respect of dynamic efficiency. Competitors will attempt to use regulators to attack a successful dominant firm, be it Microsoft, IBM, McDonalds or Telecom. Governments that allow themselves to be used this way, while preaching the virtues of capitalism and the importance of the rule of law, create a time inconsistency problem.

Another source of friction between competitors could result from conflicting interests: some of Telecom's customers are also its competitors. For example, information obtained in a customer relationship may be actually used, or be suspected of being used, to the competitive advantage of one of the competing parties. Opinions are likely to differ about what is an ethical use of information. No amount of regulation may resolve such differences of opinion to the satisfaction of both parties.

On the other hand, the market has a very powerful discipline, particularly in repeat business situations – reputation. By definition, a dominant incumbent is in a repeat business situation with its customers at large. Its reputation is important to it, and it must be prepared to answer any questions, particularly from its most important customers, that relate to the propriety of its behaviour in situations where it might be thought to have behaved opportunistically. No chief executive wants his or her firm to be seen as opportunistic by its major customers. Nor does a major firm with retail clients want to be seen that way in the eyes of the general public.

While there is nothing in this that stops any firm – a new entrant or an incumbent – from being arrogant, aggressive or even somewhat unethical or opportunistic towards competitors on occasions, such incidents have hidden costs and raise the potential demand for someone else's services. The market's decentralised checks and balances on such behaviour are surely more subtle and more powerful than anything a regulator could devise.

Assessment

Competition is manifest in telecommunications, and new technologies are increasing the competitive pressures on firms. No one has apparently been able to:

- identify the areas in which Telecom is earning monopoly profits; or
- distinguish a monopoly profit from economic rent.

More work needs to be done on these issues if a convincing case for further regulation is to be made.

The argument that telecommunications is a natural monopoly already looks thin and will continue to be less and less plausible as time passes. The competition in some areas may have oligopolistic characteristics, but these too are likely to diminish in time. No doubt competitive entry, new technologies and lower costs will continue to force prices down, unevenly. No doubt changes in the regulatory arrangements could accelerate the process in the short term. But neither of these considerations justifies regulatory action. To the contrary, the time inconsistency problem with government interventions based even in part on a successful profit history imposes a positive burden of proof on the proponents of change.

CHAPTER SIX

POSSIBLE MODIFICATIONS TO NEW ZEALAND'S REGULATORY REGIME

General modifications

The 1991–93 review of the Commerce Act 1986

The NZBR broadly supported the outcome of government's 1991–93 review of the Commerce Act 1986. Although the review did not deal adequately with the labour market or the producer boards, the NZBR is concerned that the government has not implemented the decisions reached by this review.

The NZBR also supported the associated review of the different thresholds applying to mergers and restrictive trade practices. The NZBR submitted that the same threshold should apply to both. It also argued that the assessment of harm should focus on 'market power' rather than 'dominance' or 'lessening of competition'. Again it is disappointed that no policy changes have resulted.

The regulation of vertically integrated natural monopolies

The NZBR's 1995 submission on the Ministry of Commerce and the Treasury's joint discussion paper *Regulation of Access to Vertically-Integrated Natural Monopolies* argued *inter alia* that the paper did not:

- make a convincing case for focusing on vertically integrated natural monopolies or for changing existing arrangements;
- establish that Telecom was making monopoly profits in the rural and residential sector – or that it was a vertically integrated monopoly;
- analyse industry dynamics in terms of strategic behaviour in the context of a regulatory game. The paper did not acknowledge the issue of incumbent vulnerability in respect of sunk investments, or consider incentives for opportunism by its customers and competitors and the implications of these incentives for the optimal timing of an interconnection agreement; or
- consider the case for further deregulation through the removal of the Kiwi share.

In addition, many criticisms of the B-W rule included in the paper did not appear to be based on a comparative institutional analysis (see below). These omissions from the analysis appeared to give the report an anti-incumbent bias.

Penalties, remedies and court processes

In March 1998 the NZBR made submissions to the Ministry of Commerce on its discussion paper on *Penalties, Remedies and Court Processes Under the Commerce Act 1986*. Again the NZBR argued that the paper did not provide an adequate basis for any decisions on changes to the regulatory structure legislated in the Act. The paper presented no evidence that firms are breaching the Act because of inadequate penalties or that judges are being constrained by the penalties that are currently available. In any case there are potential efficiency costs to imposing large penalties on investors who may be understandably unclear about precisely which decisions will be deemed to be in breach of the Commerce

Act 1986. Furthermore, analysis should focus on the problem of efficient pricing rather than reported profits because of the time inconsistency problem with penalising profits that may result from aggressive cost-cutting and/or innovative product development.

Telecommunications-specific modifications

The Baumol-Willig rule

The Baumol-Willig (B-W) rule is closely associated with the longstanding concepts of efficient component pricing and the closely related principle of parity pricing.[46] The rule specifies that the price charged for interconnection can be calculated equivalently as the incumbent's price to the end-user less the incumbent's cost savings as a result of the customer's use of the competitor's facility, or as the incumbent's incremental cost in supplying the uncontested facility plus the incumbent's profit per unit of final output.

The essence of the rule is that it would tend to prevent entry into the market by a competitor that has a higher cost structure than the incumbent for the part of the network that the competitor is contesting. Given the presumption that the competitor's product is identical to that of the incumbent, this notion appears to be consistent with productive efficiency. As such, it does not ensure either dynamic or allocative efficiency. Therefore, in a zero transaction cost world, it is a necessary but not a sufficient condition for productive, dynamic and allocative efficiency. Because the rule is consistent with profit maximisation by an incumbent, it is also incentive compatible.

The rule has been argued in front of courts and regulatory agencies throughout the United States and abroad for more than a decade. Baumol, Ordover and Willig express the view that it appeared to command widespread support amongst economists until around the time of the Privy Council decision supporting it in the Telecom-Clear dispute.

In New Zealand the controversy concerning the Privy Council decision has focused on the point that the rule does not ensure allocative efficiency – that is, it does not directly address any monopoly pricing of end-product prices. But this was clearly recognised by the Privy Council and had been explained *ad nauseam* by Professor Baumol in evidence.

The Privy Council sagely observed that no case had been made to it that Telecom was making monopoly profits, but that if this were a problem the government could respond under Part IV of the Commerce Act 1986. (As discussed in the previous section of this paper, it appears that a case has yet to be made that Telecom is making monopoly profits – or that it is a monopoly.)

Two of the more fundamental criticisms of the B-W rule that are considered by Baumol, Ordover and Willig are based on the possibilities that:

- variations in the assumptions underlying the necessary conditions for the rule to result in economically efficient outcomes could require adjustments to the measure of opportunity cost used in the rule; and
- there may be an alternative access rule that sacrifices some productive efficiency in return for greater allocative efficiency.

In respect of the first point, Baumol, Ordover and Willig appear to accept a finding by Laffont and Tirole that their necessary condition may not hold if the new entrant is

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[46] This discussion draws from a number of sources, including a response to the critics of the rule by Baumol, Ordover and Willig, *op cit.*

offering a differentiated product.[47] They also accept arguments by Armstrong, Doyle and Vickers that the measure of opportunity cost used in the B-W rule should take into account:

- the case where the incumbent loses less than one unit of sale for every unit gained by the new entrant;
- the possibility of imperfect substitutes for the contested portion of the incumbent's service; and
- the possibility that the new entrant's final product is not a perfect substitute for the incumbent's final product.

In respect of the second point, Baumol, Ordover and Willig clearly accept the argument in principle but object to its inherent assumption that it is desirable to use an access rule alone to try to achieve both allocative and productive efficiency. They question whether it is desirable for one rule to be made 'a jack of all trades and a master of none'. Their preferred approach would be to use two instruments in the pursuit of the two targets. They would supplement the B-W rule for access prices with a rule that ensured final product prices did not violate the stand-alone conditions for the avoidance of monopoly profits (see above).

In the event, as indicated above, the government promptly undermined the Privy Council's decision by expressing the view that the B-W rule should not be used for pricing access to a network as it would result in too high an access price.[48] This intervention was surprising for three reasons:

- it was not clear how the government could presume to know what the optimal rule was, given the eminence of the expertise called on by the Privy Council;
- the government's statement "increased uncertainty over exactly what pricing rules are legitimate, and has increased reliance upon the threat of Government intervention (rather than s 36) in defining the boundary of what is acceptable";[49] and
- concerns with the Privy Council rule should have directed attention to the issue of monopoly profits and Part IV of the Commerce Act 1986. However, the government did not appear to have a case that there were monopoly profits with regard to Telecom's uncontested activities. Nor is it clear why it rejected other policy responses.

Some guidance as to the economic rationale for the government's action is provided by Biggar, who comments that:

> If we assess the overall context of the regulatory regime for telecommunications in New Zealand, it is clear that it is Government policy to rely upon competition to achieve the Government's objectives of efficiency in these markets. It is reasonable to suppose that this competition includes competition over the prices charged to end users.
>
> If we accept that the policy stance of the Government towards the telecommunications industry is one of reliance upon competition (both entry and price competition) to achieve efficiency then we must conclude that the Baumol-Willig rule is not consistent with the overall regulatory framework of the New Zealand regime.[50]

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47 *ibid*, p 11.

48 Bollard and Pickford, *op cit*, p 53.

49 Biggar, *op cit*, footnote 31, p 19.

50 *ibid*, p 76.

This rationale does not make sense as it stands, even assuming that there are monopoly profits in a part of the market that is uncontested. Baumol and Willig have made it clear that the B-W rule is necessary but not sufficient for 'full' productive and dynamic efficiency across the network as a whole. For 'full' efficiency, they would supplement their rule with a further instrument – in the form of a rule that aims to ensure that the prices charged of end-users do not exceed stand-alone cost.[51] To illustrate the point by analogy, food and water are necessary for human survival, but humans cannot survive on water alone. The fact that water is not sufficient for survival does not justify its rejection.

Can a fuller rationale be constructed? Any rationale must overcome the problem that a rule that violates the B-W rule violates a necessary condition for 'full' equilibrium. Therefore the alternative rule cannot result in 'full' economic efficiency. There are two ways through this problem:

- construct a (more complex) model of the interconnection problem, in which the B-W rule is no longer a necessary condition for full efficiency. The task would then be to determine the optimal rules in the new model and to establish their optimality in reality; or
- find an alternative access rule that *initially* violates the B-W rule by making entry by some higher cost competitors profitable (a loss in productive efficiency but a hoped-for gain in allocative efficiency), but which *ultimately* gives the same access condition as the B-W rule.

The first approach represents a valid research programme that policy analysts will no doubt continue to watch with interest for any robust insights that emerge. It seems doubtful that the government had a superior model in mind when it made its announcement on the Privy Council's decision. From a public policy perspective, this research programme is less interesting in respect of telecommunications the less one sees the industry as characterised by monopoly problems. This is not to deny its potential interest for cross-industry analyses. Monopoly problems appear to be much more likely in some other network industries (particularly central business district roads) and a research programme may provide some policy-relevant results in such areas.

In terms of the second approach, the most likely candidate for an alternative access rule is the proposal that the new entrant be charged the incumbent's long-run average incremental cost (LRIC) of providing the uncontested service. If this charge is lower than the charge that would be permitted under the B-W rule, it will allow entry by a competitor with a higher cost structure than the incumbent's.

The LRIC rule is therefore, by intent, a more intrusive form of price control than the B-W rule. Defenders of the LRIC rule argue that if there is no monopoly profit it will give the same access price as the B-W rule. On the other hand, if there are monopoly profits, the LRIC rule could promote entry in the short term and produce gains in allocative efficiency at some cost to productive efficiency. On this basis, the LRIC rule dominates the B-W rule as long as the gains in allocative efficiency in a monopoly situation outweigh the losses in productive efficiency. At this level, the choice between these two rules would focus on this judgment.

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[51] Baumol, Ordover and Willig also consider an alternative price cap proposal discussed by Tirole and Laffont.

However, the rules may also produce different outcomes, even in the absence of any monopoly profits, on account of measurement errors. Economic rents should presumably be included in estimated LRIC, otherwise they will be counted as monopoly profits. In the absence of observable market values, the estimation of economic rents is likely to be highly contentious. The B-W rule avoids this need to distinguish between monopoly profits and economic rents in the estimation of costs.

Given the pressure from opportunistic competitors and consumers to minimise the incumbent's estimated non-monopoly economic rents and the regulator's lack of information as to their true level, the final determination of measured LRIC for the non-contested part is likely to be influenced by the politics of regulatory processes. The LRIC rule may therefore create greater uncertainty about the incumbent's property rights than the B-W rule. This leads to the following reservations concerning any proposal to replace the B-W rule by a LRIC rule in respect of telecommunications:

- given that the telecommunications industry is already privatised, existing property rights should not be interfered with by the government without a compelling reason (because of the threat to dynamic efficiency posed by actions that incumbent network investors perceive to be influenced by opportunistic competitors or consumers);
- contrary to the fundamental presumption underlying the attack on the B-W rule, every part of Telecom's network appears to be under competitive attack;
- the LRIC rule seems likely to raise average unit production costs in the industry by facilitating entry by higher cost competitors; and
- the LRIC rule may create greater uncertainty about property rights.

Numerous commentators have raised serious concerns about the United States' variant of a LRIC rule, known as the TSLRIC standard. Ergas has reviewed these issues and concludes that:

> … the TSLRIC standard creates myriad opportunities for strategic behaviour by industry participants – behaviour evident in the current US proceedings as well as in experiences in the other jurisdictions which have attempted to implement a LRIC-based approach. This strategic behaviour magnifies the risk that the outcomes of the process will reflect investments in rent-seeking rather than the underlying realities of service provision. The fact that forward looking costs are not amenable to conventional audit makes these risks all the greater.[52]

Legislating interconnection principles

As noted above, by undermining the Privy Council's 1994 clarification of interconnection pricing principles, the government reintroduced an unwelcome uncertainty about an incumbent's property rights. This has, understandably, motivated a search for a set of principles that would bring greater certainty about these rights.

Biggar has addressed this problem.[53] He proposes the following (paraphased) *general* principles for regulating the terms of access to an incumbent's network:

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52 Henry Ergas, 'Implementing TSLRIC: Issues and Concerns', Centre for Research in Network Economics and Communications, University of Auckland (forthcoming 1998).

53 Biggar, *op cit*, pp 1–79.

- access must be provided to facilities which are necessary for competition and where the benefits exceed the costs;
- the quality of the facilities must be at least as good as that enjoyed by the incumbent;
- the price charged must be no higher than that which the supplier charges itself, and the price must be consistent with a position of equal bargaining power; and
- the incumbent must unbundle products to the purchaser's satisfaction and must not use any information obtained uncompetitively.

These four general principles appear to be a codification of an 'essential facilities' doctrine. The first part of the third principle complies with the B-W rule.

Biggar also proposes for consideration two additional principles that might be of use in respect of access charges:

- access charges should be based on long-run incremental cost, including a mark-up to contribute to common costs; and
- access charges should be 'reciprocal' where the supplier and the entrant are mutually interdependent.

These two principles involve the issue of LRIC price regulation, which was discussed in the previous section of this paper.

In addition, Biggar proposes that each telecommunications carrier must provide number portability and that an independent body would administer a national numbering plan. In each case the costs would be shared amongst all such carriers "in a competitively neutral manner". This proposal is specific to telecommunications.

The first principle requires judgments to be made about what "is necessary for competition" and when "the economic benefits from providing access exceed the cost". The incumbent and its competitors will commonly disagree vehemently about both these issues. Although the point may seem pedantic, competition is endemic to human activity and will exist regardless of any essential facilities doctrine. The presence of an access rule can only affect how competition manifests itself. Furthermore, any firm that wants to survive has to be prepared to upgrade, retrench or close down parts of its operations that have become inefficient. One way firms put these parts to the test is to allow other activities in the firm to purchase contestable services from outside the firm. Assuming that Telecom wants to maximise its profits, it is likely to be interested in using parts of some other firm's network if it can lower its own costs by doing so. Conversely, if Telecom were not required to provide access to a more efficient competitor and it chose not to do so, it could stimulate its competitors to go for a more complete bypass. This might or might not be in its best strategic interests. The different strategies followed by Macintosh and Microsoft towards open architecture systems for personal computers illustrate the choices that companies face in respect of access.

Just as fundamentally, imposing an access rule or principle before a firm has been privatised is a different matter from imposing one after privatisation. The latter is an expropriation of part of an incumbent's property rights and will raise the cost of capital in New Zealand if it is seen to result from opportunistic behaviour. This is a cost to dynamic efficiency. Clearly it is a matter of judgment as to how large that cost is in any given situation. That judgment will vary from observer to observer, depending on the observer's information set, innate objectivity, sensitivity to investor sentiment and

independence from political pressures. Certainly, these are not judgments that could be safely left to politicians, bureaucrats or industry or consumer representatives. Nor are the courts necessarily well placed to make such judgments.

In short, the suggested codification of an essential facilities doctrine is troublesome from a rule-of-law perspective, compared with the alternative of well defined property rights. However, it is also relevant to ask if codification would result in better-defined property rights than exist at present, given that the Commerce Act 1986 has already created major doubts about an incumbent's property rights. In the case of the telecommunications industry, so many interconnection agreements have already been reached and so much entry into the market has occurred that it is hard to see a strong case for further, possibly unsettling and heavily contested action by the government.

With regard to other industries, the question of the optimal principles appears to depend on judgments about the case for disturbing existing property rights. Those judgments involve assessing:

- the likely extent of allocative inefficiencies;
- the probability of entry by relatively high cost competitors; and
- the risk to dynamic efficiency from government actions that may be perceived to be opportunistic.

General conclusions may be difficult to find.

Telecommunications Users Association of New Zealand's proposals

The Telecommunications Users Association of New Zealand (TUANZ) is promoting discussion of reforms in the following six areas:

- legislating for industry-developed interconnection principles;
- introducing a (mandated) arbitration process;
- lowering the legal burden of proof concerning the dominance of an incumbent;
- imposing penalties for successful court actions to 'motivate' actions by aggrieved competitors;
- encouraging greater enforced disclosure; and
- providing for the mandatory break-up of persistently offending dominant incumbents.[54]

TUANZ also advocates full number portability and has filed complaints about Telecom on this issue and on Telecom's pricing of Xtra with the Commerce Commission.[55] Other TUANZ material states that it does not think industry-specific legislation is necessary and that users do not want a regulator nor interventionist government.

Legislated self-regulation

Regarding the first of TUANZ's proposals, significant issues of rent-seeking and capture would result from legislated self-regulation. There can be little prospect of industry-

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54 *TUANZ Topics*, *op cit*, p 5.

55 'Backgrounder to Telecomunications Issues in New Zealand', Paper 1 of an occasional series of non-technical briefings on current telecommunications issues prepared by TUANZ, 28 February 1997.

wide agreement on interconnection principles given the interests of the competitors in expropriating the property of a dominant incumbent. Who is to determine whose interests should prevail? Majority opinion would obviously not accord with the rule of law. Nor can there be any expectation that matters that can be agreed upon will be in the national interest, given the collective interest of all participants in an industry in colluding at the expense of consumers and potential competitors.

Simplified arbitration processes

It is a serious step to force an incumbent to offer interconnection at terms that are deemed not to be a violation of a dominant position. However, this is what has been done in New Zealand, and the policy was known to the incumbent's current investors prior to making their investments. To force the incumbent to accept terms that it has not offered is a more severe intrusion that would be troublesome even in an *ex ante* situation. To impose it subsequent to the privatisation of Telecom could amount to a serious expropriation of a property right. Furthermore, such an expropriation could create significant opportunities for gaming. For example, a new entrant with few sunk investments may be able to walk away relatively cheaply if the arbitrator's decision is unfavourable. The incumbent has no such option. This makes the incumbent with sunk investments vulnerable to opportunistic behaviour by its competitors.

TUANZ's other proposals

The remaining five proposals (the last four listed plus the proposal on portability) appear to be specifically directed at redefining property rights at the expense of dominant incumbents. All these proposals would appear to benefit TUANZ members who would like access to Telecom's facilities at a lower price than they can currently achieve.

Does TUANZ defend its proposals on national interest grounds? TUANZ states that "it has a role and a duty to both our membership, and to New Zealand as a whole, to explore reforms to the Commerce Act that protect the interest the business community has in effective competition".[56] However, the business community is not a monolithic whole, and a number of issues must be considered before any judgment could be properly made that promoting whatever is meant by effective competition is in the national interest. One general issue is the desirability of having governments conform with the rule of law. Governments should not expropriate a dominant incumbent's property rights lightly. To do so as a result of what might be opportunistic pressure from competitors or current consumers could fundamentally impair investor confidence in New Zealand and raise the cost of capital in industries seen as most vulnerable to expropriation. Incumbents are likely to see this issue differently from those new entrants who do not ever expect to become dominant in an industry.

Furthermore, some academic research has pointed to the possibility that interconnection agreements can be used by participants in an industry to collude at the expense of consumers.[57] If so, it is possible that prices will be lower to consumers in the long haul if government policies do not force interconnection agreements to take place.

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[56] See Dr Joel Cayford, 'Support Widens for Commerce Act Reform', *TUANZ Topics*, Volume 7, 7 August 1997.

[57] See, for example, Carter and Wright, *op cit*, p 25: "The real difficulty is not that competitors find it difficult to reach an agreement, rather that their agreement is likely to be damaging to consumers. Interconnection fees provide the networks with a legitimate instrument of collusion."

CHAPTER SEVEN

CONCLUDING COMMENTS

This paper has reflected at some length on the public policy reasons for resisting the pressures to date for greater or more detailed regulation of telecommunications or other activities. Antitrust regulation is inherently problematic, given:

- information costs;
- the mixed incentives of regulators;
- the uncertainty it creates concerning property rights; and
- its weakening of the rule of law.

These are troubling weaknesses. Proponents of such regulation must establish material benefits that offset these potential costs.

Since the future costs of any regulation are unobservable, estimates of marginal costs and incremental costs to firms are problematic. The many related difficulties of determining efficient prices invite regulators and policy advisers to focus on finding evidence of monopoly profits in reported profits. However, reported profits are not based on opportunity cost concepts. This approach to assessing the presence of monopoly profit runs into serious information difficulties in respect of profits that result from chance or from benign economic rents. It is likely to lead to a bias in favour of regulation in general and rate of return regulation in particular.

Furthermore, the use of reported profits to identify monopolistic activity could actually penalise most heavily an incumbent that was highly successful in reducing output prices and unit costs while maintaining product range and quality. Yet consumers would surely prefer this outcome to a regulated outcome involving higher costs, higher prices and smaller profits. In principle, particularly in a dynamic industry, it is undesirable to focus on the profit margin rather than on the incumbent's contribution to increasing producer and consumer surplus.

The potential for abuse of a monopoly position is likely to be greatest in the case of a statutory monopoly, because, in this situation, competition is least likely to be able to create alternatives. (As a general rule, the losses that such monopolies impose on society are more likely to be associated with excessive prices and excessive costs than with a high level of reported profits.) In addition, anxieties concerning monopolistic behaviour are likely to be greatest during the transition from a statutory monopoly to a competitive, privatised and deregulated structure. Such fears are likely to be compounded by:

- uncertainty about the extent of cross-subsidies;
- the speed with which cross-subsidies will be removed;
- the possibility of opportunistic behaviour given sunk investments; and
- the absence of binding contracts defining incumbent and consumer rights.

Such anxieties make change difficult politically. For political and economic reasons there may be a case for arrangements that facilitate the industry's transition to a competitive structure. Arguably, interventions such as the Kiwi share, disclosure requirements and

the stipulations of the Commerce Act 1986 can have a useful role to play during such periods. One of the greatest benefits from these arrangements may be that they avert the implementation of more intrusive regulation that could create its own entry barriers and pricing distortions, as well as impede innovation and change. However, this is not to argue that, in the past, such interventions have been optimally designed with this objective in mind.

New Zealand's approach to light-handed regulation avoids both an industry-specific regulator and direct control of prices through rate-of-return regulation or its close relative, CPI-X regulation. This is consistent with the view that it is competition, not regulation, that will succeed, in time, in driving down costs in a sustainable manner and overcoming the non-statutory entry barriers enjoyed by any dominant incumbent. The continuing depth of support in New Zealand for the light-handed approach to regulation is encouraging from this perspective. However, it may be that the situations justifying light-handed regulation and mandatory access are more limited than the officials administering the regulation and opportunistic competitors or customers would wish to concede. As always, the case for such regulation needs to be carefully documented rather than carried by assertion. The Ministry of Commerce's proposed Code of Regulatory Conduct and associated measures should assist in this respect.

As noted in the NZBR's first report on telecommunications,[58] the case for relying on competition rather than regulation to maximise consumer welfare in telecommunications services has long been plausible, given evolving technologies. The NZBR has never subscribed to the view that tomorrow's regulator and regulation will be relatively enlightened. While people always make a difference, irresolvable information costs and special interest problems will plague network industries like telecommunications in the future, just as they have in the past. Anyone who is confident that, as a regulator, he or she can do better than those who have gone before may well be the last person who should be given the job. As Professor John Wenders of the University of Idaho commented in the foreword to the NZBR's report:

> We have had decades of experience with government regulation and ownership *as they are*, and neither have fulfilled their utopian promise. The market is (correctly) tearing them apart.

The requirement that a dominant incumbent provide access, at least during the industry's transition to a competitive deregulated market, may be politically necessary, but it is a serious and enduringly troublesome infringement of property rights. The right of access does not mean the right to enter at prices determined by the incumbent's competitors. There appears to be a widespread consensus about this point. Nor does the right of access mean that a government or a regulator or a court is competent to determine at what prices entry should occur. Happily, New Zealand has avoided all such traps to date.

Regulation and government ownership lead to pressures on government to cross-subsidise politically influential groups. Commonly, there is a suspicion that, as a result of popular and political pressure, charges for businesses are above cost, with the proceeds being used to cross-subsidise householders and farmers with greater voting power. For example, the NZBR's report argued that market pressures to reduce toll charges were being resisted, perhaps because tolls were a source of revenue for cross subsidies.

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58 New Zealand Business Roundtable, *op cit*.

Therefore, it should not be a surprise to see that, to date, greatest entry into the market has occurred in the business and toll call areas, and that it is in these areas that governments have been lobbied most heavily to change the access rules so as to facilitate entry.

During the last decade, New Zealand has seen its telecommunications industry move from a protected, uncommercial, statutory monopoly to a deregulated, commercialised and then privatised market, and subsequently into a structure with some oligopolistic features. Now, with more than 20 firms reported to be offering toll call services, it no longer seems reasonable to portray competition in some areas as oligopolistic.

None of this is to argue that all economic rents have been shaken out of the industry. To the contrary, there is every expectation that costs and prices will continue to be driven down, particularly in respect of toll calls where so much entry is occurring. However, the preconditions for this to happen are now surely in place. In any case, even the idealised equilibrium concept that *all* economic rents can be dissolved reflects a misconception of the disequilibrium dynamic competitive process, in which an incumbent's entry barriers are always being attacked, eliminated in time and replaced by others.

Any consensus as to what, if anything, might usefully be done to improve New Zealand's regulatory arrangements within the confines of the light-handed approach requires judgments to be made about:

- how satisfactorily markets will continue to break down entry barriers under current arrangements;
- how effective any changes might be in terms of their intentions; and
- the costs to dynamic efficiency that could arise if government actions were perceived to result from interest group pressures.

Conclusions about these matters have to be derived from observation, analysis, experience and intuition. This paper has argued that there are difficulties with many of the measures proposed for interpreting and responding to market behaviour. To date, officials' analyses of the market appear to have:

- relied too much on assertions about the market's alleged natural monopoly status;
- failed to adequately model the problem as a regulatory game; and
- not been sufficiently questioning about the problems with using Telecom's reported profits to infer inefficient pricing.

Notwithstanding these weaknesses, the 5 February 1996 judgment of one of those officials, Darryl Biggar, seems sound: "the case for more stringent regulation at this point is relatively weak".

In general, competitive market processes are the most effective solutions to the problem of monopoly. During the last decade, competitive entry, rapid technological change and the passing of time have greatly reduced the case for continuing monopoly regulation. Those who assert that monopoly profits are a problem in the telecommunications industry should be required to be much more explicit about the sources of those profits, since all major parts of Telecom's network now appear to be under competitive attack.

With regard to further reform, the NZBR considers that the Commerce Act 1986 can be improved, for example, by using a single and better-defined threshold of market power to:

- increase the clarity of property rights; and
- constrain the natural tendency of the Commerce Commission to expand its domain for any given budget, and then to use that expanded domain to argue for further funding.

Across the telecommunications industry, the Kiwi share is now seen as an impediment to change, including the negotiation of terms of interconnection. Furthermore, the Kiwi share's provision restricting overseas ownership surely reflects a xenophobic attitude, rather than the goal of maximising the welfare of all New Zealanders. There is a case for the government to approach Telecom with a view to reaching a timetable for the termination of these obligations.

Looking ahead, the NZBR argues that less attention should be paid by policy advisers to the further regulation of the telecommunications industry, and more attention should be paid to issues associated with the privatisation of electricity, water and roads, and to the optimal regulation of monopoly in respect of those industries.