



**CABLE & WIRELESS
OPTUS**

Cable and Wireless Optus Submission to the Productivity Commissions Review of the Telecommunications Regulatory Regime

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Executive Summary

Introduction

Cable & Wireless Optus welcomes this opportunity to respond to the Productivity Commission's Issues Paper and contribute to the debate on the future of telecommunications regulation in Australia.

The importance of electronic communications markets has grown appreciably in recent years to the point where performance in these markets impacts heavily on the competitiveness of the Australian economy as a whole. As the Irish communications regulator has noted:¹

"Telecommunications development is extremely important as it goes hand in hand with economic development. It is the cornerstone of the highly successful economy we have developed and its sustained growth and upgrade is necessary for a country with every intention of maintaining this industrial base."

As the global information economy continues its rapid growth, the importance of electronic communications markets will grow accordingly:²

"...convergent markets are hugely significant to developed economies, including Europe.... in 1997, these market were worth over 900 billion Euros, or 11% of Europe's GDP. Since that time, given relative growth rates, this percentage will have risen appreciably"

The importance of capturing the benefits of the emerging information economy is increasing rapidly. Appropriately framed communications regulation will therefore be a key contributor to the future competitiveness of the Australian economy. Dynamic and competitive electronic communications markets will be pre-requisites for Australia to deliver the benefits of the "information age" to Australian consumers, and to ensure Australia's competitiveness in the emerging "information economy".

In Cable & Wireless Optus' view, this review is an important opportunity to review and learn from Australian and international experience in the regulation of electronic communications markets, and to position Australia's regulatory regime to deal with the challenges of the future, and to thereby ensure that Australia is able to capture the benefits of the information

¹ Etain Doyle, Director of Telecommunications Regulation, Speech to the International Telecommunications Users Group, 14 June 2000.

² Spectrum, *The Scope, Pace and Consequences of Convergence*, November 1999 at 6.

economy. Cable & Wireless Optus therefore views the Commission's review as both timely and significant.

Cable & Wireless Optus believes that the current Australian regulatory regime has generally been successful in fostering the development of increasingly competitive telecommunications markets, but believes that there is significant room for improvement. While competition has developed successfully in some markets (such as mobile and international), Australia's interconnection prices still benchmark as high by OECD standards, the development of competition in local call services has been slow and this market is still in an extremely delicate stage.

International experience is particularly useful in determining the impact on the performance and competitiveness of electronic communications markets. As discussed below, for example, a comparison between Ireland and New Zealand's recent performance is particularly telling. Both countries share many similar characteristics with similar sizes, populations, and levels of economic development, making them an excellent basis for the assessment of different policy approaches.

New Zealand did not implement a sector-specific regulatory regime when it liberalised its telecommunications markets a decade ago, relying instead upon general competition law. Ireland, on the other hand, liberalised its telecommunications markets just over two years ago and implemented a comprehensive sector-specific regulatory regime based on the EC directives. A comparison of the relative performance of electronic communications markets as revealed by international benchmarking since Ireland implemented its regulatory regime shows clearly that although Ireland started well behind New Zealand, it has been able to rapidly pull ahead. Ireland's performance cannot be attributed solely to liberalisation, since New Zealand's markets had been liberalised for a longer period of time. Clearly Ireland's sector-specific regime has been an important contributing factor to Ireland's success.

Emerging trends in policy thinking

The Productivity Commission's review coincides with extensive reviews of telecommunications regulation in New Zealand, the EU and the UK. The policy trends emerging in these reviews will be useful in assisting policy thinking in Australia since its electronic communications markets are at a similar stage of development. The key emerging themes in these reviews are as follows:

Unique Economic Characteristics of Electronic Communications Markets

There are unique economic features of electronic communications markets which, if not addressed through regulation, enable the incumbent to entrench its dominant position and

prevent the competing away of its inherited advantages of incumbency. Principal among them are:

- (a) the incumbent's control of monopoly facilities, particularly the fixed local loop, which competitors must access to compete effectively;
- (b) the ease of cross-market leverage which strongly favours the vertically integrated incumbent operator; and
- (c) network effects and network externalities which favour the incumbent operator with largest network.

For these reasons, regulators agree that "communications markets will, for the foreseeable future, remain different from other sectors of the economy",³ and will require ongoing sector-specific regulation. According to the former Director General of OFTEL:⁴

"We need to ensure that there is a set of ex ante rules designed to create tolerable market structures and hence consumer benefits. The industry we are talking about is different from the rest of the economy. There is a legacy of dominant incumbents. The economic characteristics of the production and consumption of electronic communications are unusual, not least because of what we call network externalities – for instance, network access, interoperability, message termination, which arise because there are two ends to each communication. If there is anything I have learnt in five years at OFTEL, it is that correcting these network externalities in the public interest requires commercial arrangements that will not arise without regulatory intervention.... Striking the appropriate balance in the public interest will again require regulatory action via ex ante rules."

Enduring Powers and Advantages of Incumbency

The market power and inherited advantages of the incumbent have proved to be much more potent and enduring than many experts and regulators expected at the outset of liberalisation. The persistence of this market power, particularly in the fixed local loop, combined with the importance of cross-market linkages means that incumbents retain considerable opportunity to thwart and even reverse the process of liberalisation and developing competition. It has therefore become clear that the competition problems caused by this market power will persist for some time

³ OFTEL, *Communications Regulation in the UK*, a paper by the Director General of Telecommunications, July 2000, at paragraph 65.

⁴ Don Cruickshank, Director General of Telecommunications, 1998 London School of Economics Lecture.

*“A legacy of dominant incumbents continues to shape electronic communications and it will do so for some time. ... Five or more years into the future, the electronic communications sector may still be characterised by high barriers to entry in the provision of new transmission networks; economies of scale and scope within the transmission networks; commercial disincentives to interconnection and interoperability with competing networks and by very low (or zero) marginal costs on consumption of content.”*⁵

Transition to General Competition Law

It is now acknowledged that governments and regulators overestimated the speed at which electronic communications markets would transition to effective competition. Much of the early rhetoric about transitioning to general competition law was built on the assumption that market dynamics in communications markets worked in a similar manner to dynamics in the general economy. This thinking has been superseded by the better understanding of the economic characteristics of electronic communications which has developed since the early days of communications regulation and the first waves of liberalisation. The deeper understanding of network economics which has emerged in recent years has required a re-evaluation of the rhetoric about transition to general competition law which derives from this earlier thinking about how communications markets work. There is now a clear consensus that communications specific rules will continue to be required in the transition to convergence:

*“The Directive builds on the premise that competition rules will be the prime vehicle for regulating the electronic communications market once the market becomes effectively competitive. However, some sector specific ex ante rules will continue to be appropriate during the transitional phase [to convergence], in particular where former monopoly operators continue to benefit from inherited market power, such as in local access networks, or where firms are vertically integrated.”*⁶

Inadequacy of General Competition Law as a Regulatory Tool

The durability of incumbency and the economic characteristics of electronic communications markets, such as network effects, network externalities and vertical integration of the fixed local loop incumbent operator, mean that certain market failures are endemic and cannot be corrected by general competition law:

⁵ OFTEL, *Beyond the Telephone, the Television and the PC –III*, at paragraphs 2.7-2.10.

⁶ European Commission, Proposal for a Directive of the European Parliament and Council on Access to and Interconnection of Electronic Communications Networks and Associated Facilities, COM(2000)384, 12 July 2000, at 2.

*“Inherent characteristics of electronic media and communications mean that some market failures are endemic – ie a competitive market would not address these failures. Such failures are not necessarily the result of firms’ abusive behaviour and are therefore not caught by [general competition law]. They arise out of the nature of the industries in question. Accordingly, specific rules are required to cover particular bottlenecks ... Some rules beyond general competition law are necessary to prevent the residual powers and advantages of incumbents being exploited in a way which frustrates the development of competition or unfairly exploits the consumer. These rules are likely to be transitory in markets such as communications. ... They include provisions such as retail price control, the establishment of accounting systems to prevent unfair pricing or cross-subsidy, and direct control of the terms and conditions of interconnection.”*⁷

The failure of general competition law in electronic communications markets has now been demonstrated by New Zealand’s poor performance over recent years as acknowledged by the recent Ministerial Inquiry:

*“Underlying New Zealand’s approach to date has been a view that market forces will break down market power, that markets work best when regulations are minimised, and that general competition law is better than industry-specific regulation. ... New Zealand’s general approach of relying on general competition law and voluntary industry self-management is a desirable ideal. For telecommunications, however, this approach has not been fully effective, even when backed up by the threat of industry-specific regulation. ... In the absence of a highly competitive sector, or where one or more market players with market power acts in a way that inhibits competition, then generic competition law may not be sufficient. This appears to be the case in New Zealand in some instances. In addition, recourse to the Courts, the Commerce Commission and arbitration has proven inadequate to resolve disputes quickly and efficiently. ... The Inquiry accordingly favours industry self-management with a regulatory underpinning.”*⁸

This has resulted in a clear acknowledgment of the ongoing importance of ex ante rules for dealing with competition problems in electronic communications markets:

“Rules over and above general competition law are needed to deal rapidly with competition issues, including high barriers to entry, problems arising from the legacy of historic monopolies and risks of anti-competitive behaviour caused by vertical integration and spectrum constraints. These features apply across the electronic

⁷ OFTEL, *Beyond the Telephone, the Television and the PC – III*, paragraphs 4.24 and 4.34-4.35.
⁸ Ministerial Inquiry into Telecommunications, *Draft Report*, at paragraph XXX.

*communications markets. Communications markets also possess certain special characteristics, which give rise to competitive concerns for which ex ante regulation is appropriate. These include interconnection, interoperability, spectrum, numbering and call termination. Ex ante sectoral regulation, to complement the Competition Act, is essential to safeguard effective competition in the provision of communications services, at least for the foreseeable future. The abandonment of ex ante rules would fundamentally weaken the ability to promote and sustain competition in the UK.”*⁹

Targeting Regulation at Market Power

There is a clear consensus that regulation should, as far as possible, only be targeted at an incumbent operator with significant market power. Targeted regulation is necessary because:

- (a) symmetrical application of access and interconnection regulation to new entrants can undermine investment incentives and deter infrastructure-based competition. Infrastructure-based competition is necessary to drive competition beyond simple competition in wholesale services provided over the incumbent's network and provide customers with a real choice of competing operator;
- (b) regulation of new entrants is generally not appropriate because they necessarily have no ability or incentive to distort competition in the absence of market power;
- (c) regulation of services required for any-to-any connectivity is unnecessary in the absence of market power because there will be powerful commercial incentives for new entrants to interconnect with other new entrants because they would not otherwise be able to attract customers to their networks;
- (d) such targeted regulation encourages primary reliance on commercial negotiation and industry-based solutions, focuses regulatory attention where it is most required, and reduces the ongoing costs of regulation.

⁹ OFTEL, *Communications Regulation in the UK*, a paper by the Director General of Telecommunications, July 2000, at paragraphs 7-8 and 23-24.

The European reviews have therefore targeted ex ante rules at the following areas:

- (a) requirements on network and facilities operators with significant market power to ensure that they offer interconnection on a non-discriminatory basis, publish prices and set out the terms on which they provide interconnection;
- (b) requirements to prevent vertical margin squeezing by network and facilities operators with significant market power including separate regulatory accounts;
- (c) rules against unfair cross-subsidies by network operators with significant market power;
- (d) rules on network and facilities operators with significant market power prohibiting undue discrimination and undue preference.

As the European recommendations make clear there is little need for similar rules for operators without significant market power.

Convergence is no Solution to Problems of Market Power

Regulators have consistently rejected claims that the gathering pace of convergence is rapidly diluting the incumbent's market power, especially in relation to the fixed local loop, and reduces the need for sector-specific regulation. It is now recognised that:

- (a) the market is likely to be in a state of transition for at least the next five to ten years. During that time, special transitional rules are required to establish conditions to establish, develop and sustain competition in converging markets;
- (b) the local loop distribution network, as the conveyance mechanism, will form the "essential component" of any future converged market. Cost limitations on network development, even employing cheaper alternative access technologies, will probably limit the number of possible competing distribution networks, even in the largest markets. This means that concerns about dominance in conventional telecommunications markets will spill over into converged markets. Regulatory policy should therefore focus on the end point of convergence – the fixed line distribution network – and frame the regulatory structure around the need to prevent abuse of a dominant position in the local loop;

- (c) the PSTN and basic voice services will therefore continue to be an essential feature of the converging market. New entrants' ability to invest in the new generation of services will depend on them being able to compete successfully against the fixed network incumbent in PSTN services. The European Commission therefore continues to stress that "urgent action is needed to increase competition in the local loop because incumbent operators still dominant the market for the provision of communications services at local level".

It is therefore clear that the problems of the past, caused by the incumbent's stranglehold on the fixed local loop, will persist for a considerable time into the future. Regulators must not underestimate the potency and durability of incumbent's market power or overestimate the speed at which markets, particularly the fixed network market, are progressing towards full competition. As one regulator put it.

*"It is often stated that sector-specific rules and regulators ... should only be needed for a short period of transition, say, for the opening up of a national telephone monopoly to competition. This viewpoint is more often based on ideology or vested sector interests, than on analysis of – let alone experience with – the complex issues of network-based competition. It is understandable that the asymmetric burdens of regulation carried by most incumbent PTOs during the present transition to a competitive national phone market make these mighty organisations the most vocal lobbyists for early abolishment of sector-specific regulation, and for complete reliance on general competition law. But the dynamics of networked markets and the innovative forces of [technology markets] will remain too powerful to expect timely resolution of all public concerns by competition law. This works ex-post, so after the alleged abuse took place. The Microsoft case in the USA, concerning the bundling of a Web browser with the dominant operating system for personal computers, is a vivid demonstration of the time and resources required to resolve such issues in the dynamic [technology] sector."*¹⁰

Implications for Australian Regulatory Design

The clear implication of these trends in economic and policy thinking is that there will be an ongoing need for communications-specific telecommunications regulation in Australia for the period of the current review. The market has not reached the stage where existing sector-specific rules can be withdrawn any further in favour of general competition law. Withdrawal of sector-specific regulation would only result in the rapid re-monopolisation of

¹⁰ Professor Jens Arnbak, Chairman of the Independent Post & Telecommunications Authority, The Netherlands, "The Fourth Information Revolution: Policies for Open Access", Keynote Speech delivered to the ITU Regulatory Summit, Geneva 1999, page 4.

the market. The reasons for sector-specific regulation remain as compelling today as they were in 1997 when Parts XIB and XIC were introduced into the Trade Practices Act:

*“There remain good reasons for there to continue to be industry-specific competition regulation for telecommunications. ... Telstra continues to wield significant market power derived primarily from its historical monopoly position. There is scope for incumbent operators generally to engage in anti-competitive conduct because competitors in downstream markets depend on access to the carriage services controlled by them. ... Total reliance on [general competition law] to constrain anti-competitive conduct might, in some cases, prove ineffective given the still developing state of competition in the telecommunications industry.”*¹¹

Cable & Wireless Optus considers that, in the short time since they were introduced, Parts XIB and XIC of the Trade Practices Act have proved to be highly effective regulatory tools, particularly following amendments made last year to strengthen and reinforce them. In particular:

- (a) Part XIB has been actively used, with significant effect, to date. Competition notices issued in relation to Telstra’s Internet peering and commercial churn arrangements have succeeded in combating two blatantly anti-competitive practices that would have taken considerably longer to deal with in ordinary Part IV proceedings at a much greater cost to competition and consumers. Although it is difficult to quantify the deterrent effect of these provisions, it seems reasonably clear that without them, Telstra’s continuing dominance in almost every telecommunications market would have enabled it to quickly and irreversibly alter the way those markets operate. As the ACCC acknowledged, however, it is relatively easy to quantify the competitive and consumer benefits that flowed from the issuance of the competition notices;¹²
- (b) Part XIC has been a crucial tool in securing the provision of a wide range of monopoly services that Telstra would not otherwise have had the incentive to

¹¹ Minister’s Second reading Speech introducing the Trade Practices (Telecommunications) Amendment Act 1997 (Cth).

¹² “This is an excellent result for the entire Internet industry ... by forcing Telstra to sign reciprocal agreements with competing IAP’s, the ACCC has opened the Internet industry to even greater competition”, ACCC Press Release, 23 June 1998. “The ACCC has welcomed the reduction in wholesale Internet rates recently announced by Optus ... The price decrease follows on the heels of Optus reclinining a reciprocal compensation agreement with Telstra. This issue had been the subject of a competition notice served by the ACCC on Telstra ... Our competition notice stated quite clearly that the lack of reciprocal compensation meant higher wholesale prices”, ACCC Press Release, 8 July 1998. “The ACCC was extremely concerned about the conditions Telstra imposed for the transfer of customers to its competitors. The current transfer conditions have significantly inhibited the ability of telecommunications companies to enjoy the benefits of a more competitive environment”, ACCC Press Release, 10 August 1998.

provide on competitive terms and conditions. Part XIC has been instrumental in overcoming the economic incentive for Telstra to refuse access to essential facilities or services or to provide them only on an unfair or discriminatory basis. Without Part XIC, competition would not have developed as extensively or as fast as it has in Australia.

- (c) However, in Cable & Wireless Optus' view, certain aspects of the current regulatory regime could be improved in light of recent Australian and international experience. This would better achieve the government's objectives of ensuring the development of a vibrant and competitive electronic communications markets which deliver quality, choice and value for money to consumers, and ensures that Australia remains at the forefront of communications revolution in the Asia-Pacific region. Cable and Wireless Optus will provide the Commission with further submissions on these changes.

1. Economic characteristics of Telecommunications Markets

Issues Paper Questions

1.1 This paper considers the following threshold issues raised in the Issues Paper:

To what extent do the characteristics of large lumpy investments, network externalities, economies of scale and scope, and a dominant integrated incumbent have the capacity to impede competition, and in what market sectors?

Are there any other characteristics of the telecommunications industry that suggest a need for industry -specific competition regulation? If so , in what areas of the industry?

Key points

Inherent characteristics of telecommunications markets that warrant the continuance of communications-specific regulation include:

- (a) economies of scale, scope and density derived by the incumbent from its fixed local network;
- (b) vertical integration of the incumbent;
- (c) single supplier and non-duplication of fixed local loop services;
- (d) positive network effects;
- (e) the need for smaller networks to achieve any to any connectivity;
- (f) interlinkage of markets and the scope for cross-market leverage by the incumbent;
- (g) a high proportion of fixed costs to variable costs;
- (h) substantially higher risk profile faced by infrastructure-based new entrants;
- (i) the impact of "network effects";

- (j) retail price controls¹³ which increase Telstra's incentives to anti-competitively cross-leverage into new markets.

Standard-economic thinking about communications based network industries has emerged which recognizes the critical role for strong, targeted regulatory intervention at the source of market failure: the monopoly fixed local loop. Pro-competitive regulation needs to safeguard against incumbents exploiting the special characteristics of these markets to achieve and maintain dominance.¹⁴

Introduction

- 1.2 There is an international consensus that strong electronic communications-specific competition regulation continues to be necessary to address the incumbent local exchange carrier's market power, including in countries which have enjoyed competitive electronic communications markets for as long as or longer than Australia. Support for ex ante regulatory safeguards also have been reinforced by the growing understanding of the impact and significance of network effects, as demonstrated in the *Microsoft case*.
- 1.3 The Chairman of the Dutch regulator, OPTA, recently considered the question of whether the appropriate time had been reached for the roll-back of sector-specific regulation in Western Europe, and concluded that:

"It is often stated that sector-specific rules and regulators...should only be needed for a short period of transition, say, for opening up a national telephone monopoly to competition. This viewpoint is more often based on ideology or vested sector interests, than on analysis of – let alone experience with – the complex issues of network-based competition. It is understandable that the asymmetric burdens of regulation carried out by most incumbent public telecommunication operators during the present transition to a competitive national phone market make these mighty organisations the most

13 Cable & Wireless Optus favors the abolition of telecommunications retail price controls due to their deleterious affects on competition and consumer welfare. Pro-competitive regulation targeted at the source of market failure, Telstra's monopoly supply of fixed local loop services, is more effective than retail price controls.

14 The impact of these structural features of telecommunications markets and the enduring power of incumbents is not adequately explained by traditional economic theories of perfect competition.

vocal lobbyists for early abolishment of sector-specific regulation, and for complete reliance on general competition law.”¹⁵

1.4 Professor Arnbak went on to explain the ways in which this viewpoint is mistaken:

“... the dynamics of networked markets and the innovative forces of information and communication technology will remain too powerful to expect timely resolution by all public concerns by competition law. This works ex-post, so after the alleged abuse took place. The Microsoft court case in the USA...is a vivid demonstration of the time and resources required to resolve such issues in the dynamic information and communication technology sector. This is the sector where most business attention will focus in the coming decade, and government ought to provide predicability for investors and market players sooner – not later.”¹⁶

1.5 In undertaking this review, the Productivity Commission should consider the latest economic understandings of electronic communications markets that have emerged. These include:

- (a) international experience of liberalizing telecommunications markets over the 1990s. The incumbent’s market power in the fixed local loop has proven to be more entrenched than many anticipated in virtually every country undertaking liberalization. Incumbents shown great capacity to readily leverage existing market power into the new electronic communications services (mobiles, data, internet), and the now emerging converging markets such as High Speed internet access, subscription TV and video streaming.
- (b) International policy accepts, in the light of the experience of liberalising markets, a continuing need for pro-competitive regulation to establish and sustain competition. As Chapter 2 shows, there is now renewed support amongst anti-trust experts and policy makers in other developed economies including throughout the EU, the UK, Ireland and New Zealand for ex ante, sector-specific safeguards over ex post behaviour powers, such as general competition laws.

15 Professor Jens Arnbak, Chairman, Independent Post and Telecommunication Authority (The Netherlands); The Fourth Information Revolution: Policies for Open Access, keynote speech delivered to the International Telecommunications Union Regulatory Summit, Telecom ’99, Geneva (11 October 1999).

16 Professor Jens Arnbak, Chairman, Independent Post and Telecommunication Authority (The Netherlands); The Fourth Information Revolution: Policies for Open Access, keynote speech delivered to the International Telecommunications Union Regulatory Summit, Telecom ’99, Geneva (11 October 1999).

- (c) There is now a renewed appreciation of the natural monopoly cost characteristics of the fixed local loop, economies of scope, and entrenched market power arising from network effects and other factors.
- (d) The new Chicago School¹⁷ thinking advocates pro-active regulation of incumbent fixed local loop services, and safe-guards preventing anti-competitive conduct.

Features of telecommunications markets

1.6 Telecommunications markets exhibit a number of key features that make for imperfect market mechanisms, including the following:

- (a) *Significant presence of monopoly inputs, principally the fixed local loop:* the fixed local loop is the single layer of the interconnected networks which is indispensable to the provision of all other network services. Without the local loop, no telecommunications services can reach end users.
- (b) *A high proportion of fixed costs to variable costs:* as a result, the incumbent and new entrants face very different cost profiles. This incumbent's fixed costs are spread across a much larger, relatively stable customer base than the new entrant;
- (c) *Large sunk costs:* the substantial investments made by the new entrants in network infrastructure, or the costs of entry are sunk due to asset specificity - an inability to redeploy new entrant assets in alternative valuable uses. However, the incumbent's network investments usually were made over a long period particularly in the local network, and its capital investment is substantially recovered (if not over recovered through monopoly rents). A new entrant faces substantial sunk costs with uncertain prospects about the level of market share it will be able to win. The irreversible nature of the substantial investment in network infrastructure itself is a barrier to entry as there is not a "cost less" exit. In contrast to other layers of the telecommunications network, the sunk costs of the local loop significantly limit the extent of any duplication at that level;

17 The new Chicago School thinking now embraces the need for pro-competitive regulation and unbundling of incumbent fixed local loop services. See, for example, the "Affidavit of Professors Baumol, Willig and Ordover to the FCC", April 1996, and Robert H Bork, Proposed conclusions of law, Amicus Curiae brief, US v Microsoft, <http://legal.web.aol.com/decisions/d/other/microsoft.html>.

- (d) *Economies of scale*: while new transmission technology have allowed new entrants to attain significant scale at higher levels of the fixed network (eg international bandwidth, and inter-capital city transmission), the local network continues to exhibit strong scale economies over the range of demand. These scale economies themselves constitute barriers to entry;
- (e) *Economies of density*: as most of the costs in the local network are fixed, the incumbent derives substantial advantages from the economies of density arising from the ubiquitous penetration of its local network. This is clearly demonstrated by the fact that even in those areas in which new entrants have been very successful in deploying alternative local network infrastructure, the incumbent continues to account for more than 80% of all line connections¹⁸;
- (f) *Economies of scope*: new local transmission technologies allow new entrants to realise economies of scope by offering multiple services through a single "pipe". However, copper loop-based technologies, such as xDSL (Digital Subscriber Loop), now allow incumbents to realise similar economies of scope over the existing local network. These economies of scope compound the substantial economies of scale and density which the incumbent already derives from the local network;
- (g) *Network externalities*: the need for any-to-any connectivity to capture the significant benefits of network externalities means that interconnection with the incumbent's installed base of customers is essential, so that any user of one network can contact any user of another. Inferior access to the incumbent's customers, access at supra-competitive prices, quality degradation, technological restrictions on interconnection or outright refusal to supply interconnection therefore greatly raise entry barriers to fixed local network entry;
- (h) *Information asymmetries*: the incumbent historically, and on a continuing basis, through the supply of interconnection services holds an unrivaled database of information on individual customers, their calling patterns and their choices of preferred suppliers of their telecommunications services. The incumbent can use this information to analyse customer churn and to target customer group through win back campaigns based on this information to which only the incumbent has access. Regulatory requirements for cost-based interconnection and investigations of anti-competitive conduct can be delayed

¹⁸ The United Kingdom has the most significant facilities-based competition in the world where new entrants have to date only captured 15% of the market for direct connections.

and frustrated by the incumbent resisting information disclosure to the regulator and new entrants. As new entrants must interconnect with the incumbent's network, discriminatory notification of network changes new interfaces and new functionality can substantially advantage the incumbent's retail operations over new entrants;

- (i) The incumbent's vertical integration: the incumbent can exercise leverage arising from its ownership of the local network into downstream market sectors. Vertical integration can be most obviously expressed through discriminatory access charges. However, the growing complexity and intricacy of interconnection relationships provides a vertically integrated incumbent with many opportunities to leverage its vertical power through non-price terms;
- (j) *The incumbent's opportunity for cross market leverage:* the fixed line incumbent's strength in traditional markets, and the continuing reliance on interconnection with the incumbent's local network to support new services, facilitates its leverage of power into adjacent markets. These maybe new markets, such as online services or existing markets where the incumbent faces different levels of competition. The Australian and international experience is that, in the absence of adequate vertical restraints, incumbents have been able to maintain their dominance in most of the markets existing at the time competition was introduced and have been able to achieve dominance in new markets which have subsequently emerged, such as online services. Further, upgrading the copper network with DSL technology allows the incumbent to combine these economies of scope and density, placing it in a position which is unmatched by a new entrant.

The Natural Monopoly Characteristics of the Local Loop

- 1.7 Detailed cost modeling work over the last several years in the United States, Europe and Australia has consistently demonstrated the costs of production of the fixed local loop are a natural monopoly.
- 1.8 The United States Federal Communications Commission (**FCC**) has described the substantial advantages which incumbent local exchange carriers (**LEC**) enjoy due to the natural monopoly cost characteristics of the local loop:

“An incumbent Local Exchange Carrier's (LEC) existing infrastructure enables it to serve new customers at a much lower incremental cost than a facilities-based entrant that must install its own switches, trunking and loops

to serve its customers ... Because an incumbent LEC currently serves virtually all subscribers in its local serving area, an incumbent LEC has little economic incentive to assist new entrants in their efforts to secure a greater share of that market. An incumbent LEC also has the ability to act on its incentive to discourage entry and robust competition by not interconnecting its network with the new entrant's network or by insisting on supra competitive prices or other unreasonable conditions for terminating calls from the new entrant's customers to the incumbent LEC's subscribers ... the incumbent LECs have economies of density, connectivity and scale; traditionally, these have been viewed as creating a natural monopoly.”¹⁹

- 1.9 The incumbent's large customer base means it has very low per unit costs, which allows the incumbent to price services supplied over the local network at sufficiently low levels to discourage customers migrating to new entrants' networks.
- 1.10 A competing local exchange carrier also faces substantial fixed costs when entering the market and those costs are sunk once the infrastructure is installed. Even if the new entrant is utilising more efficient and modern local network technology, its per unit costs are likely to be significantly above the incumbent's.
- 1.11 Expert cost modelling group HAI Consulting has conducted a comprehensive empirical assessment of the prospect that cable telephony and wireless technology will provide significant competition for Incumbent Local Exchange Carrier (ILEC) residential services. HAI concludes:

“As in the original Enduring Local Bottleneck (“ELB I”) released in 1994, the findings are that the competitive technologies are technologically viable. However, profitability is far in the future and internal rates of return are relatively low, except in the most optimistic cases. As a result, competition is likely to develop slowly, beginning with the more attractive markets. Residential competition may never become ubiquitous. The conclusion is that regulators cannot assume that widespread facilities-based competition is likely in the near term.

The implications for public policy are significant. Given the already weak case for local residential competition, it is essential that pro-competitive public policy measures are implemented as soon as possible and are vigorously

¹⁹ FCC, Implementation of Local Competition Provisions in the Telecommunications Act of 1996, First Report and Order, FCC 96-325, at page 10.

enforced policies premised on the inevitability of local competition are destined to fail.”²⁰

- 1.12 The FCC has explained competitive consequences of this disparity of costs and risks between incumbents and new entrants as follows:

Fixed costs are frequently associated with economies of scale. Specifically, where a firm faces both a fixed cost and a constant or declining variable cost, the firm’s average unit cost will fall as output increases, and the firm’s cost structure is said to exhibit economies of scale. For example, the costs a competitive LEC incurs to construct its own fibre transport ring would constitute a fixed cost, because, at least in the short run, this cost would not vary as the competitive LEC’s output changed. If a competitive LEC incurs significant fixed costs when it uses a particular facility, in its early stages of development it would have a significantly higher average unit cost than the incumbent LEC, which has a significantly larger output and customer base over which to spread the fixed costs.

Certain network facilities also involve sunk costs, because the facilities cannot be easily redeployed or sold should the competitor decide to cease offering service over those facilities. For example, the cost of the loop serving a customer’s home is largely a sunk cost because it cannot be recovered if the carrier ceases serving the customer. It is generally recognised that the need to incur sunk costs can constitute a barrier to entry. Specifically, where an incumbent has already deployed sunk facilities to serve all customers, a competitive LEC may be unwilling to sink the costs of duplicative facilities, either because it may be unable to lure customers away from the incumbent and generate enough revenue to cover those sunk costs, or because resulting competition between itself and the incumbent LEC would drive prices so low that, even if the competitive LEC won a significant number of customers, it would still be unable to recover its sunk costs. In such situations, the incumbent has a “first mover” advantage.²¹

- 1.13 Martin Cave and Peter Williamson²² reporting on detailed cost modeling work performed by Sharma (1996)²³ in the United Kingdom find that at 20 % penetration

20 “The Enduring Local Bottleneck II”, Prepared for MCI by Hatfield Associates, inc, April 30, 1997 at executive summary pgs 2 and 3.

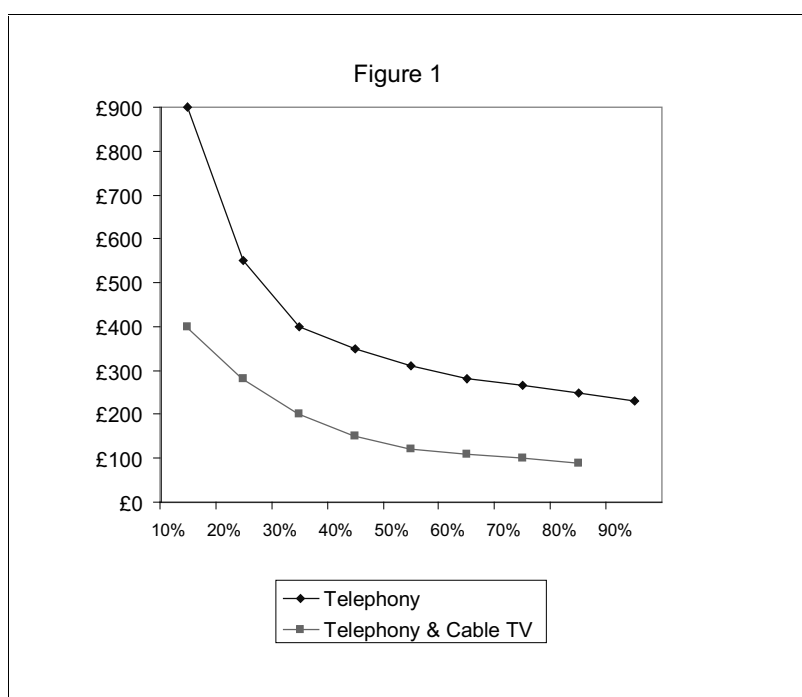
21 Third Report and Order, FCC 99-238, at pages 40-41.

22 “Entry, Competition, And Regulation in UK Telecommunications” by Martin Cave and Peter Williamson, Oxford Review of Economic Policy, Vol 12 105.

23 Sharma 1996 ‘Costing alternative delivery Systems’, Brunel University

levels the average cost per subscriber for telephony services is £270 per annum. This average cost per subscriber decreases to £100 per annum at 80% penetration. The modeling finds considerable economies of scope from the combined provision of telephony and cable TV services using the same trench infrastructure: costs per subscriber are £550 per annum at 20 % penetration (for both telephony and Pay TV), decreasing to £250 per annum at 90 % penetration. The results are replicated in the figure below:

Figure 1.1 Telecommunications and Cable Television, Annualized costs by Level of Penetration



1.14 Professor Mark Armstrong has also identified the strong natural monopoly characteristics of the existing local loop:

“An activity is said to be a natural monopoly if it is most cost-effectively carried out by a single firm rather than by several. Of the four broad sectors listed in section II(i) above, the sector which has the most widespread natural monopoly cost conditions is local fixed network operation. This is largely because of economies of density, whereby it is cheaper per person to build a local network connecting, say, 5,000 people in a given area than it is to connect 500.

“Related to the discussion of natural monopoly is the existence of fixed connection costs to both fixed and mobile networks. It is very costly to have

more than one telecommunications cable going into a given premises — laying cable involves digging up the pavement and so on, and on average costs several hundred pounds — and so the local loop could be viewed as an extreme natural monopoly for wire-based networks.”²⁴

- 1.15 The natural monopoly cost characteristics of the fixed local loop are borne out by the ACCC’s NERA cost model. The NERA model finds that 47 % of the costs of constructing a local loop²⁵ comprise the costs of trenches to house copper cable. The copper cable itself comprises a further 25% of total costs of the local loop. Both of these infrastructures are **fixed costs** with respect to the output of subscriber lines: the same level of trench and cable costs would be incurred by a ubiquitous operator in an area that achieved 30 per cent subscriber penetration, or over 95 per cent penetration as Telstra presently enjoys. Hence, the local loop is a natural monopoly in the local subscriber area.
- 1.16 In total, NERA assessed the quantum of trench and cable costs to construct a fixed local loop on the scale of Telstra’s current network at over \$10 billion as shown in table 3.2 of the Final NERA report reproduced below²⁶:

Figure 1.2 Breakdown of Investment Costs in the Access Network (Option 1 Values)

	Investment (\$ million)	% of total
Pillars	\$ 314	2%
Copper cable	\$ 3,497	25%
Trench	\$ 6,709	47%
Line cards	\$ 2,392	17%
Other non-traffic sensitive parts of switch	\$ 1,047	7%
Additional costs for remote rural customers	\$ 220	2%
Total	\$ 14,178	

- 1.17 The ACCC has found that as labour, trench construction costs, obtaining environmental approvals and other civil work costs are increasing through time, that the costs of constructing an alternative fixed local loop through time are in fact increasing, not decreasing. This suggests the capital and sunk costs of facilities based new entry (the barriers to entry) are increasing. As shown

²⁴ Mark Armstrong “Competition in Telecommunications”, Oxford Review of Economic Policy Vol 13, no 1 at pg 66.

²⁵ The local loop is defined in the NERA model as the copper loop from the customer premise to the first point of concentration in the network (a remote unit). A remote unit is a concentrator/multiplexer that collects dedicated copper local loops from many customer premises. The remote unit connects these copper loops to the local switch, usually via fibre optic connections. See “Estimating the Long-run Incremental cost of PSTN Access”, Final Report for the ACCC, prepared by NERA at chapter 1 and 2.

²⁶ “Estimating the Long-run Incremental cost of PSTN Access”, Final Report for the ACCC, prepared by NERA at pg 46.

in the ACCC Final Undertaking report at table 2.6 pg 65 the forward looking 2000/2001 local loop costs are 3% above the 1999/2000 local loop costs:

Figure 1.3. — Efficient line costs (\$ per year)

Category	Efficient line costs 1999-2000	Efficient line costs 2000-2001
<i>CBD</i>	152	156
<i>Metropolitan</i>	339	348
<i>Provincial</i>	302	310
<i>Rural/ remote</i>	461	473
<i>National average</i>	336	346

- 1.18 The result implies the forward looking costs of constructing a fixed local loop today are more than the historical costs Telstra incurred in constructing its network. Telstra has constructed its network in constructing its extensive trenches, ducts, and cable network throughout Australia to build its CAN network — funded at taxpayer expense, and when the costs of trench construction, labor costs and obtaining environmental approval were significantly less than today. This suggests technological change and the trend prices for basic fixed local loop production inputs (trenches, labor costs, environmental approval) is increasing Telstra’s market power through time.

Telstra’s fixed network exhibits strong economies of scope

- 1.19 A production process exhibits economies of scope when it can supply two or more services more cheaply than would occur if the two services were produced using separate sets of assets. For example, there are significant economies of scope between local and long-distance calling, since both use the local loop to originate and terminate voice calls. Hence a firm that has constructed a fixed local loop to provide local calls can produce long-distance calls at incremental cost (requiring long-distance transmission switching and transmission).

- 1.20 Consider a new firm entering the long-distance market. Absent government mandated interconnection to Telstra's network, the new firm could be forced to construct its own local loop to provide long-distance services — and this would place the entrant at a significant cost disadvantage to Telstra in provision of long-distance services²⁷. Absent government mandated pricing of supply of the local loop, Telstra could supply the loop to its own long-distance business on more favorable terms than to competitors, thereby distorting entry and competition in the long-distance market to its own advantage. Hence a firm possessing a fixed local loop has the ability to extend market power into other products that use the local loop: utilizing economies of scope in production that arise from ownership of the local loop.
- 1.21 Economies of scope are extensive in telecommunications and principally arise from the fixed local loop network element and, in particular, the trenching and cable infrastructure. The local loop is used, and necessary, to produce most telecommunications products, for example:
- local,
 - long-distance,
 - Fixed to mobile and mobile to fixed calling; and
 - international voice telephony.
- 1.22 In addition, the loop is used to provide other multi-media and new economy products such as:
- High speed data transmission products via ISDN lines (integrated services digital network),
 - internet access (and high speed access via copper based DSL technologies);
 - Video streaming; and
 - subscription television services.

²⁷ Full duplication of Telstra's network would not solve the entrant's problems since the firm would still be required to connect subscribers which would be difficult to achieve commercially absent number portability — again requiring the incumbent's co-operation.

- 1.23 In relation to subscription TV services, the Foxtel cable network shares the same trench network used by Telstra's copper cables. This trenching is a fixed cost comprising 50 % of the total costs (\$7 billion) of the local loop (according to ACCC cost modeling). Hence, there are substantial economies of scope between the provision of Pay TV and telephony services.
- 1.24 Telstra's entrenched market power, deriving from ownership of the local loop, has enabled Telstra to maintain a dominant market share in traditional voice telephony services such as long-distance and international calling. For example, nine years after the introduction of competition in long-distance services, and after three years of full competition since July 1997, Telstra still maintains 75 % market share in long-distance calling and 48 % share in international calling as at March 2000²⁸:

<i>Service provider</i>	<i>National long-distance</i>	<i>International</i>
<i>Telstra</i>	75%	48%
<i>Cable & Wireless Optus</i>	16%	18%
<i>AAPT</i>	6%	6%
<i>One.Tel</i>	2%	5%
<i>Others</i>	1%	23%

Table 7.11 — Estimated shares for national and international long distance services, June 2000²⁹

- 1.25 The principle reasons for Telstra maintaining unnaturally high and entrenched market shares in long-distance and international calling include:
- High long-distance interconnect rates limiting the effectiveness of price competition Telstra's rivals could provide;

²⁸ ACCC Final Undertaking Report at pg 32.
²⁹ JB Were & Son, March 2000.

- Non-separation of Telstra's local and long-distance business; this uniquely allows Telstra to engage in targeted win-back strategies³⁰;
- Telstra not providing a viable wholesale local call product to competitors, resulting in Telstra maintaining crucial advantages being the only provider of a one bill/one stop shop full service suite of telephony products to consumers.

1.26 Going forward in the convergent world the copper local loop will be the principle delivery mechanism for high speed internet access and video streaming services via Digital Subscriber Loop (DSL) technologies³¹.

1.27 Current available evidence indicates technological change is increasing Telstra's economies of scope in the provision of electronic communications services using the local loop. For example, ten years ago Telstra had a monopoly in basic voice telephony services. Now Telstra is extending that dominance into newly emerging multi-media services including data services, subscription television, internet access, and mobile telephony as depicted in the following table:

Market	Telstra market share (1989)	Telstra market share (1999)
Internet Access	Not provided	50% ³²
Subscription Television	Not Provided	50% ³³

³⁰ For example Telstra's control of the local loop provides Telstra alone with all customers long-distance calling profiles. This can be uniquely used by Telstra's long-distance marketing team to win-back customers lost to competitors.

³¹ DSL technology uses copper loops of lengths not greater than 4km (generally 2 Km lengths) to provide high speed data products. For example Asymmetrical DSL technology provides 8.2 Mega Bits per second (Mbps) on the down-link to the end-user over a single copper pair, and 640 Kilobits per second up-link transmission rates. HDSL (SHDSL/HDSL-2) supports symmetrical transmission speeds up to 2 Mbps. Data rates of between 2 – 4 Mbps are sufficient to support video quality moving pictures to consumers.

³² Figures taken from The Australian, 7 July 2000 "Telstra says it's hit the big one" at pg 28: "Telstra has taunted its rivals by saying it has over 1 million online subscribers and is in line for even swifter expansion soon." Telstra states it has 650,000 subscribers to its Big Pong service whilst its closest rival, Ozemail claims over 400,000 subscribers and third largest Cable & Wireless Optus has almost 160,000 subscribers.

³³ Figures from Financial Review July 20 at pg 13 "Excite Chello's on the fast-track", where current Pay TV subscriber numbers are Foxtel 650,000, Optus 215,000 and Austar 430,000. However, given Austar takes the Foxtel content feed this measure may underestimate Telstra's market share in subscription TV. For example Jim Bloomfield CEO of Foxtel is quoted in The Australia 27 April 2000 "Three may be a crowd", according to the following: "Subscriber numbers are light years ahead of the competition. Bloomfield quotes a figure of 630,000, with regional operator Austar, which takes

Mobile Telephony	Not Provided	48 % ³⁴
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- 1.28 Telstra's dominant market position in the fixed line market provides significant advantages and ability to cross-leverage market power into its mobile business. For example, a major cost of mobile networks is the provision of transmission capacity from the mobile base stations to the mobile network operator's local switch. Telstra is the monopoly provider of this transmission capacity.³⁵ Hence other mobile operators are dependent on Telstra providing this fixed line transmission capacity on equivalent terms that Telstra provides to itself to enable efficient competition on its merits. Eight years after the introduction of competition in mobiles Telstra maintains the largest share of the market at 48 %.
- 1.29 Telstra derives further retailing advantages and scope economies in mobiles from its fixed business dominance — such as shared advertising. Network pricing advantages are also obtained such as an ability to price intra-network fixed to Telstra mobile calls at lower prices than other mobile terminating calls.
- 1.30 Telstra's copper local network also provides large scope economies into markets for data transmission services. For example, Telstra is presently using its copper loop to cross-leverage Telstra's monopoly market power into fast-data markets through products such as ISDN lines. The market is now worth more than \$2.4 billion per annum for Telstra. Here Telstra has steadily maintained over 97% market share and very high growth rates during the last five years as shown in the following table:

	FY 94/95	FY 95/96	FY96/97	FY 97/98	FY 98/99
ISDN lines (thousands)	193.6	269.5	360.3	488.4	722.3
% growth		39%	34%	36%	47%

the Foxtel feed, adding a further 240,000. This compares with Optus on about 200,000 but Optus is not pushing its cable TV service as a stand-alone product,...".

³⁴ ABN-AMRO mobile market report 12 July 2000, "Australian Mobile Penetration hits 45%." Telstra's has 4.12 million subscribers and 48 % market share, Optus has 2.86 million subscribers and 33 % market share and Vodafone has 1.56 million subscribers and 18 % market share.

³⁵ The natural monopoly cost characteristics and large fixed costs of transmission capacity between most non-capital city routes in Australia mean Telstra will remain the dominant supplier of such capacity into the foreseeable future. Transmission between capital cities is competitively provided.

Inter-linked markets and the scope for cross-market leverage

Structure of the market

- 1.31 The fundamental distinguishing characteristic of telecommunications markets is that they consist of a “network of interconnected networks”.³⁶ Telecommunications networks are made up of a hierarchy of physical network layers, ranging from local access networks to national trunk networks and international circuits, which must be interconnected within each individual network and between different networks. Each layer is a complementary input for the provision of different services. For example, a provider of value-added services needs to be able to purchase underlying network services on reasonable terms, and a network operator needs to interconnect with other networks to be able to offer its subscribers connectivity to all other subscribers. The only alternative is full facilities, based competition with the deployment of a ubiquitous local access network. The substantial barriers to this approach have been outlined above.
- 1.32 In this way, each segment of the telecommunications market is horizontally and vertically inter-linked and downstream markets are dependent on “any-to-any” connectivity to the fixed local loop. This, particularly when combined with vertical integration, provides clear incentives and opportunities for anti-competitive behaviours. An entrant, for example, must be able to offer any to any connectivity allowing the incumbent fixed network provider (the only firm able to offer this connectivity) substantial bargaining power in negotiations on access terms and conditions.

Any-to-any Connectivity

- 1.33 Even where a new entrant deploys its own local network facilities, it will need to interconnect that network with the incumbent's local network so subscribers can make and receive calls. New entrants typically need to interconnect 90% or more of their local traffic with the incumbent. This need for any-to-any connectivity has significant implications for competition in electronic communications markets, as discussed by Kahn:

³⁶ Economides, “The Telecommunications Act of 1996 and its Impact” in (1998) Japan and the World Economy; “US Telecommunications Today” (1998) 33 Business Economics.

“The telephone industry exhibits strong positive network externalities – a user’s benefit from the network increases greatly as additional users are connected. This feature marks an important distinction between telephones and, say, textiles. A new textile producer does not need much co-operation from other textile producers, but an entrant to local telephone service needs the incumbent’s co-operation to let its customers communicate with the incumbent’s customers. With its much larger customer base, the incumbent could hamper entry even by efficient entrants, by denying interconnection or by providing connections of poor quality or at an exorbitant price.”³⁷

- 1.34 Telstra itself, recognizing the need for any-to-any connectivity to the largest fixed network, supports special telecommunications government regulation to promote fair and equitable competition. As Telstra’s 50% New Zealand joint venture, Telstra Saturn, has submitted to the current New Zealand Telecommunications Inquiry:

“Any new entrant to a market must expect that the incumbent will respond aggressively to their entry; this is the very nature of competition, and Telstra Saturn fully endorses this as appropriate. However, in a network-based industry such as telecommunications, it is inevitable that new entrants also need to interconnect with and rely upon the network of the incumbent. This dependence complicates the competitive scenario. In the absence of appropriate regulation, focussed on interconnection and access to essential facilities, the new entrants are unable to compete on a fair and equitable basis.”³⁸

- 1.35 The incumbent local exchange carrier can use the fact the entrants require any-to-any connectivity to erode the competitive threat from a new local exchange carrier through both price and non-price strategies:
- (a) The interconnection charge for termination on the incumbent’s network can be set by the incumbent at levels substantially above cost. As interconnection

³⁷ Kahn “Economic Report the President” Ch 6, February 1996 at pg 164. Laffront, Rey and Tirole, and Mark Armstrong have developed access pricing models that show if the incumbent and new operator networks interconnect at prices significantly above cost, whilst both operators price internal network calls at cost, the incumbent can drive out an equally or more efficient new entrant. This is because of positive network externalities and the differing sizes of the directly connected subscriber bases. Incumbent customers make a higher proportion of lower priced intra-network calls, whereas the new entrant’s subscriber base is required to make a higher proportion of higher priced inter-network calls. See Laffront, JJ, Rey and Tirole (1996) “Network Competition:II Price Discrimination”, *Rand Journal of Economics*, and Mark Armstrong “Local Competition in UK Telecommunications” October 1997, Regulation Initiative Discussion Paper Series Number 016.

³⁸ Telstra Saturn response to the New Zealand Ministerial Inquiry into Telecommunications Regulation, Cover letter of MR Jack Matthews (CEO of Telstra Saturn LTD) at pg 1.

payments are a cash outpayment, high termination costs can adversely impact the new entrant's business and erode any efficiency and cost savings it realises through deploying its own network infrastructure;

- (b) The adverse impact of interconnection charges can be exacerbated if the incumbent, in the absence of interconnection safeguards, insists on asymmetric charges. The incumbent argues that it should pay less for termination on the new entrant's network than the new entrant pays for termination on the incumbent's network because of the differences in the relative size and "value" of the respective networks. For example, Telecom New Zealand charges 3 cents per minute for termination on its network but refused to pay more than 2 cents per minute for termination on new entrant networks; and
- (c) The technical terms of interconnection may constrain network functionality within the new entrants network. As most of the new entrant's local traffic involves the incumbent's network, the practical effect of technological limitations on interconnection is to constrain the new entrant's ability to exploit the full capability of the newer technology which it is deploying. For example, a call forwarding solution for number portability can restrict functionality available within the new entrant's network for ported numbers, such as the ability to conference call. As discussed below, an incumbent network operator's ability to set standards has been recognised, such as in the Microsoft case, as a source of market power.

1.36 New entrants have little bargaining power to negotiate more equitable price and non-price terms with incumbents since they have little that incumbents need, but the entrants require what only the incumbent can provide - access to a ubiquitous network. Commercial negotiation alone is therefore inadequate for producing competitive outcomes. As discussed by the FCC³⁹:

Because an incumbent LEC currently serves virtually all subscribers in its local serving area,⁴⁰ an incumbent LEC has little economic incentive to assist new entrants in their efforts to secure a greater share of that market. An incumbent LEC also has the ability to act on its incentive to discourage entry and robust competition by not interconnecting its network with the new entrant's network or by insisting on supracompetitive prices or other unreasonable conditions for terminating calls from the entrant's customers to the incumbent LEC's subscribers."

³⁹ First Report and Order 1996 at point 10.
⁴⁰ See NPRM at n.13.

Vertical Integration

- 1.37 The competitive risks of the incumbent's control of the local loop multiply when the incumbent is also vertically integrated. A vertically integrated carrier is able to leverage its local network market power into downstream markets for retail and wholesale services which are distributed over local network infrastructure.
- 1.38 The vertical integration of network operators was identified by the Hilmer Committee as a pricing issue to be addressed in liberalising utility industries:

“A concern can arise where there is a vertical relationship between two activities, particularly when access to the natural monopoly element is essential for effective competition in a downstream or upstream market. For example, effective competition in electricity generation requires access to electricity transmission grids. In this case, integration of the natural monopoly element (transmission grids) and a potentially competitive activity (electricity generation) raises concerns that control over access to monopoly element may be misused to stifle or prevent competition in the potentially competitive sector. Even if access is not actually misused the potential for such behaviour may deter new entry to, or limit vigorous competition in, markets dependent on access to the natural monopoly element.”⁴¹

- 1.39 Vertical integration was also recognised as the key regulatory design issue when Australia began along the path of liberalisation in 1991. A 1990 report by Henry Ergas on the recommended approach for deregulation of Australia's telecommunications industry strongly preferred ex ante remedies:

*“The logic of safeguards requires that the various carriers in the field be treated equally: that they be provided with broadly comparable access to those network facilities which it would be most difficult for them to replicate; and that they incur comparable charges for the facilities they use. **In practice, a vertically integrated carrier has obvious incentives to evade or undermine the safeguards and ample opportunity to do so.** Moreover, the monitoring of performance against the safeguards is complicated by the sharing of facilities by the different levels of the carrier's structure and by the scope for arbitrary assignment of costs and revenues.”⁴²*

⁴¹ The Hilmer Report

⁴² Ergas, *The Competitive Safeguards Report*, 1990.

1.40 The Government chose not to act on this advice and, mainly to secure political support for liberalisation, proceeded to implement a higher degree of vertical integration by merging Telecom and Office of the Telecommunications Commissioner (OTC).

1.41 Seven years later, the Industry Commission continued to identify the incumbent's vertical integration as the central competitive issue:

“Telstra’s dual role as a supplier of access and a competitor with those gaining access may lead to a conflict of interest. While Telstra benefits directly from supplying access as long as the price it receives exceeds the full cost of provision, it loses to the extent that this leads to a reduction in profitable business for the final product. This is likely to be a situation where it is forced to allow (rather than volunteers) access to a competitor.”⁴³

1.42 Vertically integrated incumbents have not only been able to maintain their market power in most market sectors which exist when liberalisation commenced, but they also have been able to leverage this market power, into new markets which have subsequently emerged.

1.43 As the following table shows, for example, incumbent telecommunications operators have successfully leveraged to a similar position of dominance in Internet markets:

Country	Dominant ISP	Incumbent Telephony Co. Owner
Australia	Big Pond	Telstra
Canada	Sympatico	Bell Canada
France	Wanadoo	France Telecom
Germany	T-Online	Deutsche Telecom
Hong Kong	Netvigator	Hong Kong Telecom
New Zealand	Xtra	Telecom New Zealand
Spain	Infovia	Telefonica
Sweden	Tele2	Tele2
Taiwan	HiNet	Chungwa Telecom
<i>Source: ITU: Challenges to the Network – Internet for Development, p 131</i>		

⁴³ Industry Commission, Telecommunications Economics and Policy Issues, Staff Information Paper, March 1997, 123.

1.44 The UK is an exception, where BT has a lesser share of the ISP market. This difference may be explained by the stricter sector-specific, ex ante safeguards which apply in the UK compared to the countries in the above table, including:

- (a) accounting and operational separation of the BT local network from downstream retail businesses;
- (b) publication of BT local network costs data to the industry;
- (c) sector-specific conduct rules;
- (d) favourable interconnection arrangements for ISP (including to support free ISP services).

1.45 It seems that these ex ante rules have achieved their purpose in the UK.

Cross leverage and Retail Price Controls

1.46 Telstra's incentives to cross leverage into new markets using anti-competitive practices is, in part, motivated by current retail price controls⁴⁴. These retail controls restrict Telstra's ability to reap full monopoly profits from its control of the local loop through traditional voice telephony products such as line rental and local calling.

⁴⁴

For example, the "one monopoly rent" theorem says an 'unregulated' monopoly has a private incentive to expand into related activities when and **only when** it is efficient to do so: monopoly profits are maximized by cost efficient and effective competition in the downstream market. Those economists familiar with the "one monopoly rent" theorem recognize it no longer holds when the monopolist is subject to price regulation in the monopoly market. The monopolist attempts to re-take these profits, lost through price regulation, in the downstream market through distorting competition. See, for example, "Predation, monopolisation and Antitrust", by Janusz A. Ordover and Garth Saloner, in ch 9 of the Handbook of Industrial Organisation 1989 at pg 538. See especially pgs 571 to 573. Perhaps more importantly, the one monopoly rent theorem does not hold in a dynamic sense because the controller of the monopoly building block input has incentives to capture competitors' greater efficiencies in downstream markets through the access price: increasing the access price when competitors lower their downstream costs. See, for example, "The Economics of Pricing Network Interconnection: Theory and Application to the Market for Telecommunications in New Zealand" by William Tye and Carlos Lapuerta in the Yale Journal of Regulation, volume 13, 1996. The classic historical illustration of such behavior, giving rise to the United States essential facilities doctrine, is *Terminal Railroads* (United States v Terminal Railroads Association 224, US 383 (1912)). In this case a group of railroad operators bought the only railroad bridge across the Mississippi river in St. Louis. They then charged other railroad operators discriminatorily high prices for the bridge's usage, and ultimately thereby attained significant market power and monopoly rents over final goods supplied to St. Louis via the railroad bridge. See also *Interstate Circuit Incorporated v United States*, 306 US 208 (1939). In addition, the theorem does not hold unless the assumptions of perfect competition in the downstream market are satisfied.

Hence, Telstra has strong motivation to recapture such profits in downstream markets that use the local loop as a key input — through discriminatory pricing of the local loop input to downstream competitors. This undermines fair and efficient competition in these markets and enables Telstra to anti-competitively extend its local loop monopoly into these downstream markets.

Network effects

The Concept of Network Effects

- 1.47 Products and services characterised by network effects increase in value as the size of the network increases. Thus, networks become more efficient as they grow larger, even while the market power associated with the any dominant network player becomes more durable and entrenched. The network effect is, in economic terms, one of increasing returns.⁴⁵ However in competition terms, network effects can entrench and exacerbate structural impediments to effective competition.
- 1.48 Telecommunications networks are subject to a network externality (the network effect): when choosing between competing networks, consumers will select the most valuable network — which tends to be the largest network with the most users or nodes. This exacerbates the tendency towards natural monopoly. As consumers increasingly gravitate towards the largest network — a phenomenon also known as ‘positive feedback’ — competing, smaller networks increasingly lose value and become squeezed from the market.
- 1.49 One main area of difference between high-technology industries, such as telecommunications, and smokestack industries is the presence of networks and the consequences of network effects in high-technology industries. While networked industries possess ‘traditional’ scale and scope economies, network effects have a very different and more powerful impact. Kelley describes the difference in these terms:

⁴⁵ Metcalfe’s law expresses the relationship in mathematical terms, such that if there are n people in a network and the value to each person is proportionate to the number of other users, then the total value of the network to all users, is $n(n-1)/2$. Metcalfe’s law means that where there is a network of 10 users, each of whom value the network at \$1 for every other user, the overall value of the network is \$90. It follows that if the network increases tenfold, to reach 100 users, the value of the network increases 100 times over to \$9900. For a discussion of Metcalfe’s law see, Carl Shapiro and Hal Varian *Information Rules: A Strategic Guide to the Network Economy* (Harvard Business School Press: Boston, MA) (1999) 184; George Gilder “Metcalfe’s Law and Legacy” (13 September, 1993) *Forbes* 185.

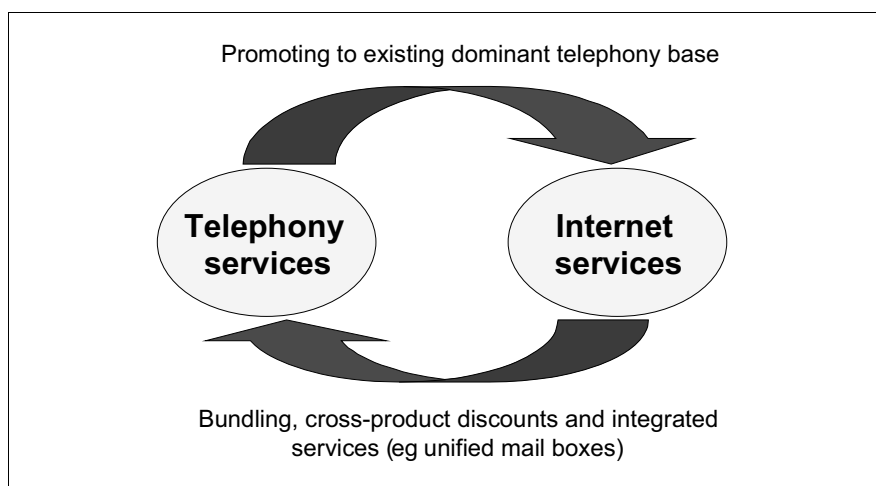
“[I]ndustrial economies of scale increase value gradually and linearly. Small efforts yield small results; larger efforts give larger results. Networks, on the other hand, increase value exponentially – small efforts reinforce one another so that results can quickly snowball into an avalanche. It’s the difference between a piggy bank and compounded interest.”⁴⁶

- 1.50 Economic theory suggests that in network industries, anti-competitive tactics can be crucial, even outcome determinative, regardless of whether an industry’s cost structure is conducive to competition, or an entrant is more cost efficient than the entrenched incumbent. For example, consider a new entrant local network operator that is more cost efficient than Telstra. Suppose Telstra adopts a solution to providing local number portability that means calls to the new entrant’s network are more likely to be blocked, and or delayed in set-up.⁴⁷ Recognizing calls to the new entrant’s network are of inferior quality consumers will gravitate towards and lock-in to the incumbent’s network — independent of the relative efficiency of the competing networks.
- 1.51 The insights gleaned from economic theory of network industries argue that the development of competition within certain kinds of markets is neither inevitable nor impossible, but rather that it requires fostering and vigilant protection against the endeavors of incumbent operators to anti-competitively undermine competition. Once a competitive and de-concentrated market structure has taken root, however, it is likely to remain in place simply because strategic behaviour becomes more difficult without dominance.
- 1.52 Therefore, network economics recognises that network effects create complementary cycles, the “positive feedback” cycle which allows operators with networks of sufficient size to enjoy an exponentially larger attraction for customers, and the “negative feedback” loop which ensures the competition is less able to compete. This cycle in communications markets is illustrated in the following diagram:

46 Kevin Kelley, *New Rules for the New Economy* (1999) 26.

47 This is called a facility redirect solution to the provision of portability.

Figure 1.5 - Network effects and the telecommunications industry



1.53 The operation and impact of network effects in electronic communications is fundamentally different to the market dynamics which operate in other sectors:

- (a) In "old world" industries, it was necessary to concentrate regulation of anti-competitive behaviour at the supply side of the market, since it was at this end of the market where entry was stifled by existing operators;
- (b) In electronic communications industries, however, network effects are increasingly occurring on the demand side of the market. Consumer expectation for networked information and delivery streams are far more influential in dynamic industries. In terms of regulating the structural features of telecommunications markets, focus must be given to the operation of network effects which entrench the position of the incumbent by effectively barring the entry of new operators who do not operate on a networked scale.

1.54 Not only does the nature of these impacts differ between old and new markets, but the anti-competitive effects are magnified in electronic communications markets. As Shapiro contends:

"...I believe that the magnitude of potential harm tends to be greater in network markets. In conventional markets, the key issue is whether an entrant can gain a sufficient scale of business to successfully cover its fixed (as well as variable) production costs...Compare this to the situation prevailing in network industries. In a network context, what matters is not the absolute size of the "defecting coalition" of buyers who are considering whether to sponsor an entrant. Rather, what matters are the network benefits they would have to forego to do so, given the exclusivity required by the incumbent.

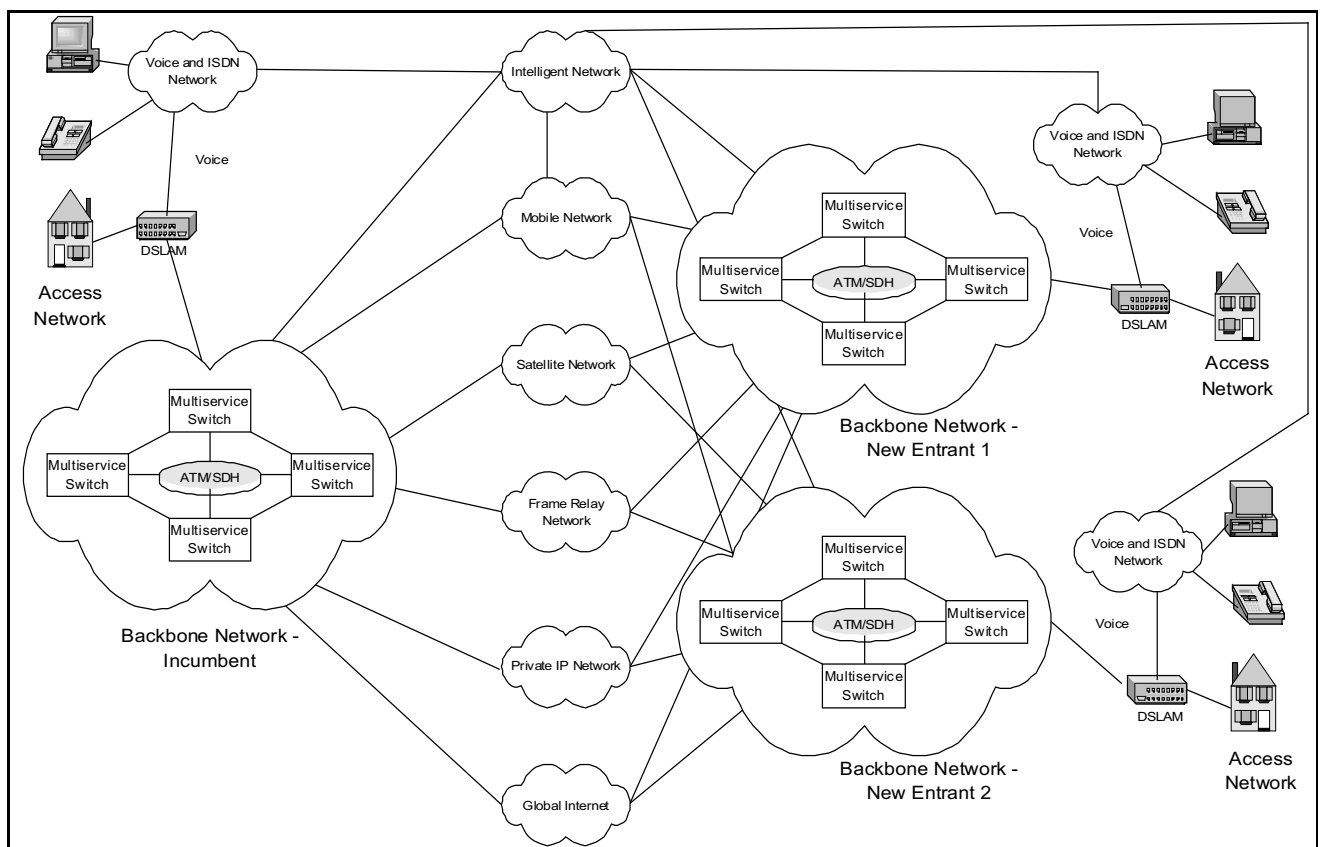
*...I conjecture that exclusivity can operate on a grander scale with network effects than with conventional scale economies.*⁴⁸

- 1.55 Furthermore, network effects do not necessarily operate to enhance innovation. The market incumbent, in the absence of appropriate regulation requiring “open systems”, is the determinant of the shape and direction of future products and services. There are not necessarily economically efficient-incentives for incumbents to deploy new services, or interconnect such services to new entrant networks.. This is because interconnection and compatibility with the incumbent’s systems are necessary for a new entrant if it is to realise the benefits of network effects. Market entry can be thwarted by an incumbent, whose dominance is therefore maintained by consumer desirability to choose only those services and delivery platforms which will ensure an ability to be networked to other networks.
- 1.56 The behaviour of the incumbent in such circumstances can operate irrespective of the benefits of the new entrant’s technology, even if that technology is superior to the incumbent’s. An example of this is with geographic local number portability. Optus’ fixed local network is able to offer customers geographic portability (changing residential address and retaining the same telephone number). Yet due to technology adopted by Telstra, Optus is prevented from offering this full geographic portability service to our customers. This is because Telstra would be unable to correctly terminate calls to these geographically ported customers.
- 1.57 Network effects, therefore, operate to:
- (a) increase the existing barriers to entry in telecommunications markets;
 - (b) limit the ability for consumers to experience the benefits of the services and products of new entrants;
 - (c) increase incentives for incumbents to maintain their market power, thereby heightening the incentive to engage in anti-competitive conduct and exclude entrants from the market or limit the interoperability of their networks;
 - (d) perpetuate demand in favour of the incumbent’s offering and cement its position as the dominant operator; and
 - (e) allow operators, once they have reached a position of dominance, to maintain that position easily at the expense of efficiency, innovation and competition.

48 Shapiro, Exclusivity in Networked Industries

1.58 The convergence of networks and consumer demands for greater mobility and roaming may accelerate the significance of network effects. Consumers are demanding the ability to use a handheld intelligent device "anywhere and any time" to access a wide range of communications services, including unified messaging services which combine email, voicemail and facsimile. This will require during the course of a day as a customer moves around the capability to roam across multiple fixed and mobile networks and the inter-working of the customer's handheld device with IN platforms in the "home" network and the "visitor" networks onto which the customer roams. This is depicted below:

Figure 1.6



1.59 The incumbent is the only operator which is in a position to supply this functionality by itself because of its ubiquitous mobile and fixed networks. For example, Telstra already offers the capability between its Telstra.com portal and its GSM network to log receipt of voicemail and email.

1.60 Other competitors would require sophisticated interconnection arrangements with the incumbent to provide similar services, including real time inter-working of database and signalling systems. For the reasons outlined above, incumbents have strong incentives to refuse, limit and degrade even basic forms of interconnection and have

no incentive to negotiate more advanced forms of interconnection. For example, Telstra's standard access agreement prohibits the real time inter-working of databases.

Tipping

- 1.61 Economic theory has recognised that in many high technology industries there is a “tipping point” where, if an operator is able to reach a particular market share, network effects in the form of positive and negative feedback cycles lead to a rapid acceleration in that operator's market share growth at the expense of competitors and consumers. The *Microsoft* case combined the dynamic of tipping in a new market with the exercise of cross market leverage from a dominant position in an adjacent market. Similar combined risks of tipping and cross market leverage arise in the telecommunications industry between traditional voice telephony markets and new services markets, such as the Internet, and were at the core of the ACCC's decision not to clear the Telstra-Ozemail merger.

*“...if technology is on a roll, as is the Internet today, positive feedback translates into rapid growth: success feeds on itself. This is a virtuous cycle....”*⁴⁹

- 1.62 Once a company begins to enjoy a “virtuous” cycle, it is almost inevitable that the company will come to dominate the market. The value of its network is such that it attracts more members, thus making the network more valuable. Regulators must be cautious of the fact that companies in network industries can achieve:

*“... a degree of penetration that leads inevitably to a single network dominating the field.”*⁵⁰

- 1.63 In network industries, therefore, companies can quickly achieve dominance, and the same processes which allowed it to do so mean that their market dominance is unassailable:

“...[A company] once it achieves dominance through network efficiencies, can preclude competition for extended periods.... Once a network monopoly is in

49 Carl Shapiro and Hal Varian, *Information Rules: A Strategic Guide To The Network Economy*, Harvard Business School Press, Boston, Massachusetts, 1999 at p 176.

50 Robert Pitofsky, FTC Chairman, “Antitrust Analysis in High-Tech Industries”, Speech to ABA Antitrust Issues in High Tech Industries Workshop, 26 February, 1999.

place, it is often a simple matter for the monopolist to exclude would-be challengers."⁵¹

- 1.64 A pattern of tipping has been exhibited repeatedly in the high –technology markets – for example, the video recorder market; the computer hardware market and the computer software market. In each case, a company that gained a significant initial edge crossed the tipping point and grew exponentially to arrive at a position of unassailable dominance.⁵² Telecommunications markets increasingly exhibit similar characteristics, and tipping occurs rapidly in telecommunications networks due to low marginal costs and rapid distribution.
- 1.65 In traditional telecommunications markets, such as telephony services, the incumbent already possesses very high levels of market power and the objective in those markets is to see the incumbent's market share be competed below the level at which it has market power: that is, to see its market share fall below the tipping point and remain below that level. Premature removal of pro-competitive safeguards before the incumbent's market share falls below the tipping point may mean the prospects of that ever occurring recede.
- 1.66 The other problem in telecommunications markets is that the incumbent, such as Microsoft did with its operating system and Internet browser, may leverage its existing market power into new markets. In effect, the cross market leverage allows the incumbent to more rapidly accelerate to and beyond the tipping point. The combination of dominance in an adjacent market and the characteristics of an emerging technology market might well mean that the tipping point is lower than might apply to a firm which is focussed only in the new market.

Path Dependency Theory

- 1.67 Path dependency theory suggests that because of the presence of “increasing returns”, or “positive feedback” within the economy, certain markets or sectors of the economy are not likely to reach predictable equilibria as suggested by conventional economic theory. Instead, in such markets initial conditions, or random events, can result in the

51 Robert Pitofsky, FTC Chairman, “Antitrust Analysis in High-Tech Industries”, Speech to ABA Antitrust Issues in High Tech Industries Workshop, 26 February, 1999.

52 David Balto, Assistant Director, Office of Policy and Evaluation, Bureau of Competition, Federal Trade Commission, “Emerging Antitrust Issues in Electronic Commerce”, Speech to the Antitrust Institute (12 November 1999).

market moving along “a particular path, the choice [of which] may become locked-in regardless of the advantages of alternatives”.⁵³

- 1.68 The essential prerequisite for such path dependence, or “lock-in”, is increasing returns or positive feedback, meaning that as production by a particular firm or of a particular product increases, the returns to be gained from further production also increase. Such increasing returns can occur either because the costs of production decline (which is the conventional supply-side natural monopoly story), or because demand side interactions such as network effects and the need for standardisation make the product more desirable to new purchasers as the existing base of users expands.⁵⁴ Once a particular market or economic sector is set upon a particular path, the key insight is that market forces alone will not be adequate to move to a new path, even if that path is more socially efficient.
- 1.69 Thus, in an industry characterised by entry barriers, high sunk costs, network effects, and the presence of a dominant incumbent firm, entry and competition will not necessarily occur through the action of simple market forces. Put differently, the feasibility of anticompetitive entry deterrence by dominant firms may provide the kinds of “positive feedback” necessary for path dependence, because the benefits of such strategic behaviour, as well as the benefits from any network effects, are available only to the largest firms. In such a market, therefore, a competitive industry structure may take root if, but only if, a dominant firm is corralled by regulators, and otherwise prevented from exercising its dominant power.
- 1.70 Telephony markets are universally characterised by a dominant incumbents operators. Sunk costs of entry into the provision of fixed local loop services are very high for the foreseeable future, since providing local exchange service requires installing a physical network. Information is still quite asymmetric, since incumbent carriers possess vastly more knowledge about the markets they serve than any new entrant, even such powerful ones as interexchange carriers. The telephone industry is the archetypal example of an industry with network effects.

⁵³ Brian Arthur, *Increasing Returns and Path Dependency in the Economy* 1 (1994); see also Paul David, *Clio and the Economics of QWERTY*, 75 *Am. Econ. Rev.* 332 (1985). For an application of path dependency theory to legal issues, see Marcel Kahan & Michael Lausner, *Path Dependence in Corporate Contracting: Herd Behaviour and Cognitive Biases*, 74 *Wash. U.L.Q.* 347 (1996). For summaries of path dependency theory and criticism of its practical significance, see s.j. Liebowitz & Stephen E. Margolis, *Path Dependence, Lock-In, and History*, 7 *J.L. Econ. & Org.* 205 (1995); Frederick W. Lambert, *Path Dependent Inefficiency in the Corporate Construct: The Uncertain Case with Less Certain Implications*, 23 *Del. J. Corp. L.* 1077 (1998).

⁵⁴ See Arthur, *supra* note 61, at 3-4.

New Analytical Tools to Deal with Networked Industries

1.71 The original Chicago School advocates of “deregulation” contended that:

- (a) unfettered markets tend toward efficiency;
- (b) market imperfections⁵⁵ are normally transitory; and
- (c) consequently, judicial enforcement should proceed cautiously, lest it mistakenly proscribe behaviour that promotes consumer welfare.⁵⁶

1.72 There is now a standard economic understanding that:

- (a) market failures are not necessarily self-correcting;
- (b) firms can therefore take advantage of imperfections, such as information gaps or competitors’ sunk costs,⁵⁷ to produce socially inefficient results even in ostensibly competitive markets; and
- (c) the distortions to competition made possible by market imperfections should prompt enforcement authorities to scrutinise a wider variety of conduct than previously examined.⁵⁸

1.73 The rise of new Chicago school thinking⁵⁹ is often charted from the 1992 decision by the US Supreme Court in *Kodak v Image Technical Services*⁶⁰ and has recently been reinforced by the DOJ’s prosecution of Microsoft.

⁵⁵ Market imperfections include such phenomena as contractual precommitment, network externalities, installed base, sunk costs, and information and switching costs. See Post-Chicago Analysis After Kodak: Interview with Professor Steven C. Salop, Antitrust, Fall/Winter 1992, at 20,20 [hereinafter Interview with Professor Salop].

⁵⁶ Judge Easterbrook, a pillar of the Chicago School, has observed that “if the court errs by condemning a beneficial practice, the benefits may be lost for good.....If the court errs by permitting a deleterious practice, though, the welfare loss decreases over time. Monopoly is self-destructive. Monopoly prices eventually attract entry.” Frank H. Easterbrook, The Limits of Antitrust, 63 Tex L. Rev. 1, 2 (1984) [hereinafter Easterbrook, The Limits of Antitrust].

⁵⁷ When investments are irreversible – that is, when they have little or no value in some other use, or cannot be recovered in a liquidation sale – expenditures on them are called sunk costs. See Baker, *supra* note 14, at 651.

⁵⁸ See Interview with Professor Salop, *supra* note 16, at 20 (“Post-Chicago analysis does not unskeptically attribute efficiency properties to conduct and it is more open to the possibility of anticompetitive effects. Thus, it is more open to intervention by policy makers.”); Janusz A. Ordover & Garth Saloner, Predation, Monopolization, and Antitrust, in 1 Handbook of Industrial Organisation 537, 537 (Richard Schmalensee & Robert D. Willig eds., 1989) (“Theoretical models studied here provide a guarded support for the proposition that strategic choices made by dominant firms are not invariably consistent with the objective of welfare-maximisation and that some constraints on firm behaviour may, in fact, increase welfare.”).

“What the new anticompetitive theories have in common is that they suggest that market dominance, usually combined with asymmetric information regarding cost and demand conditions as well as substantial sunk costs of entry, are necessary prerequisites for the sorts of sophisticated, anticompetitive behaviour and may be effective in preventing new entry for prolonged periods of time.”⁶¹

- 1.74 This shift away from the original Chicago School formulation of markets has been matched by growing support for ex ante and structural regulatory pressures over ex post behavioural rules.

“We need to ensure that the general authorisation is based on a set of ex ante rules designed to create tolerable market structures and hence consumer benefit. The industry we are talking about is different from the rest of the economy. There is a legacy of dominant incumbents. The economic characteristics of the production and consumption of electronic communications are unusual, not least because of what we call network externalities - for instance, network access, inter-operability, message termination, which arise because there are two ends to each communication. If there is anything I have learnt in five years at Oftel, it is that correcting these network externalities in the public interest requires commercial arrangements that will not arise without regulatory invention....I’m very glad to see that this thinking about ex ante rules is becoming more mainstream.....Striking the appropriate balance in the public interest will again require regulatory action via ex ante rules.”⁶²

- 1.75 Concerns over the entrenched and self perpetuating of market power in technology-based industries lead in the Microsoft case to the Court order requiring de-merger into a separate "network" company and "applications" company.

“The only sure and effective remedy is one which fundamentally changes the incentives and means of the offending monopolists.”⁶³

59 The term “post-Chicago” apparently was coined by Professor Hovenkamp, See Hovenkamp, After Chicago, *supra* note 1, at 225 (describing the post-Chicago approach as “both more complex and more ambiguous than the Chicago School model”); Michael S Jacobs, An Essay on the Normative Foundations of Antitrust Economics, 74 NCL Rev. 219, 222 (1995).

60 504 US 45 1 (1992).

61 Bhagwat 1492-93.

62 Don Cruickshank, former Director-General of the Office of Telecommunications, 1998 London Economics (Fn?)

63 United States of America v Microsoft Corporation, remedies brief Amici Curiae, Professors Litan, Noll, Nordhouse, and Scherer, 28 April at p 27.

- 1.76 These developments in the regulation of networked industries are supported by even some of the strongest adherents of the original Chicago School views. While continuing to support the application of original Chicago School theories to the rest of the economy, they have recognised that the special characteristics of networked industries require rethinking when those theories are applied to those industries. Robert Bork has strongly supported the prosecution of Microsoft, and stated in his expert opinion:

“Contrary to Microsoft’s assertions and to much public commentary, [the court’s findings of anti-competitive conduct] is not a revolutionary application of anti-trust laws ...

... The reason that predatory pricing is rarely tried and is even more rarely successful is simple and has no application to this case. A predator wishing to gain a monopoly by price cutting must expand output to drive the market price down in order to capture a very high market share. This means that he will be selling very large volumes at a price well below marginal cost, thus incurring substantial losses. The intended victim, however, need not expand output and may contract it so that he either suffers no loss or suffers a loss not only absolutely smaller than that absorbed by the predator but one that is even proportionally smaller. The predator uses up his financial reserves much faster than does his victim, thus illustrating why this strategy is seldom tried and even more rarely successful.

This analysis does not apply when, as in Microsoft’s case, the predator need not expand output and lower its price on a large volume of its sales. Microsoft’s strategy did not require it to lower the price of Windows in order to keep its competitors out of the market...

... Microsoft’s assault was not constrained by any need to accept high and rising marginal costs. As Microsoft itself has said in this litigation, the heavy costs associated with the browser – more than \$100 million a year – are those of research, development, and promotion. These are largely fixed costs. The incremental costs of manufacturing the browser and distributing it do not vary greatly with output, the cost curve is flat or virtually so. This means that, during the browser war, Microsoft was not operating at a marginal cost

greater than Netscape's, and its losses were no greater than those of Netscape."⁶⁴

⁶⁴ Robert H Bork, Proposed conclusions of law, Amicus Curiae brief, *US v Microsoft*, <http://legal.web.aol.com/decisions/d/other/microsoft.html>

2. International Trends in Competition Regulation in Telecommunications

Issues Paper Questions

2.1 This Chapter deals with the following questions raised by the Issues Paper:

- *is industry-specific regulation the most appropriate way of addressing any barriers to connection in the telecommunications industry?*
- *is current regulation well targeted at the specified objectives?*
- *could regulation be improved, and if so, how?*

2.2 Guidance on these questions can be taken from:

- The conclusions which overseas policy makers have reached on similar questions;
- a comparison of outcomes in markets which follow different regulatory approaches; and
- the approach taken to similar competitive issues in other networked industries in Australia.

2.3 **Key Points:**

- Recent reviews of regulation of electronic communications markets in developed countries (EU, New Zealand, UK and Ireland) provide consistent evidence for a number of propositions:
 - Communications -specific regulation should be maintained over the medium term (5 to 7 years). Technological and market developments over this time period are otherwise unlikely to erode the incumbent's market power;
 - Ex ante regulation is more effective and efficient than ex post behavioural regulation; and
 - access regulation should be targeted at significant market power to limit regulatory intervention to where it is required, to avoid disincentives for investment, and to reduce the ongoing costs of regulation.

- the significance of communications-specific regulation can be demonstrated by a ‘with/without’ comparison between 2 similar economies - Ireland, which has relied solely on sector-specific regulation, and New Zealand, which has relied solely on general competition law. Ireland has achieved better outcomes in two years of liberalisation than New Zealand has achieved in 10 years.

Introduction

- 2.4 There are a number of recent international reviews of future approaches to regulatory policy in electronic communications markets that would be of assistance to the Commission in its assessment of the Australian regime, and approaches to positioning it for the future.
- 2.5 The 1999 European Commission Review is of particular interest since the proposed Directives issued on 12 July 2000 represent the consolidated set of principles to emerge from the Commission’s comprehensive review and analysis of forward-looking regulatory policies. It focuses on a timeframe of 2002–2007.
- 2.6 The New Zealand Ministerial Inquiry into Telecommunications considers the appropriate regulatory regime for 2000 - 2005 timeframe. The draft report recommends abandonment of general competition law, in favor of communications-specific regulation based on the Australian model.⁶⁵ Telstra’s 50% owned New Zealand company has endorsed the draft recommendations of the New Zealand Inquiry .
- 2.7 The central message of all these reviews can be summarised in the following statement from the European Commission:

*“A number of factors constrain the competitiveness of the market at present. One is the existence of former monopolists that still provide the majority of connections, giving them a degree of bargaining power significantly greater than that of their competitors; another is the existence of bottleneck resources controlled by one or a few operators...For these reasons there is a consensus that ex-ante sector specific rules will continue to be needed alongside competition rules to regulate access and interconnection, until such time as there is full and effective competition in all segments of the market”.*⁶⁶

⁶⁵ New Zealand is the only empirical example to which incumbents advocating sole reliance on general competition law could point.

⁶⁶ EC Proposal on Access and Interconnection, July 2000 at 3.

European Union

*“The EU’s new strategic goal for the next decade is to become the most competitive and dynamic knowledge-based economy in the world... Time is running out...2004 is late. My guess is too late.”*⁶⁷

2.8 Over the last two years, the European Commission has undertaken a detailed review of the telecommunications regulatory regime which should apply throughout the European Union over the period 2002 - 2007. The European Commission’s final recommendations are set out in the proposed Directives submitted to the European Parliament on 12 July 2000. The key features of the proposed regulatory regime are as follows:

- (a) retention of telecommunications-specific regulation of access and interconnection;
- (b) communications-specific regulation of anti-competitive conduct;
- (c) reliance on ex ante regulation of fixed line incumbent operators;
- (d) Access and interconnection regulation based on significant market power (asymmetric in its practical application);
- (e) continuing review of wholesale services which should be subject to access and interconnection regulation based on the evolution of wholesale level competition; and
- (f) continuing with separate regulatory regimes for broadcasting and telecommunications sectors, but with a common regulatory approach to access and interconnection regulation of multi-channel transmission networks.

2.9 The European Commission strongly endorsed continued reliance on sector-specific regulation. It rejected arguments from national telephony incumbents that competition had grown sufficiently as a result of the initial European regulatory measures that it was "safe" to rely solely on general competition law. The Commission commented that:

⁶⁷ Erkki Liikanen, Member of the European Commission Responsible for Enterprise and the Information Society, *eEurope: Evolution or Revolution?*, Speech to the Jacques Delors Foundation, Lisbon, 13 April 2000 at 2. See also See Chapter 2 below; and Australian Productivity Commission, *International Benchmarking of Australian Telecommunications Services*, March 1999.

*"...sector specific ex ante rules will continue to be appropriate during the transitional phase, in particular where former monopoly operators continue to benefit from inherited market power, such as in local access networks, or where firms are vertically integrated."*⁶⁸

- 2.10 The Commission also stated a clear preference for ex ante regulation over ex post regulation. Ex post regulation, whether sector specific or general competition law, was not sufficiently strong nor could it be applied sufficiently quickly to address the entrenched advantages of incumbency:

*"A number of factors constrain the competitiveness of the market at present. One is the existence of former monopolists that still provide the majority of connections, giving them a degree of bargaining power significantly greater than that of their competitors; another is the existence of bottleneck resources controlled by one or a few operators...For these reasons there is a consensus that ex-ante sector specific rules will continue..."*⁶⁹

- 2.11 The Commission proposes that the extent of access and interconnection regulation should be linked to an assessment of the access provider's power in the wholesale market in which the relevant access or interconnection service is provided. The Commission considered that this asymmetrical approach was consistent with a minimalist approach to regulation. Regulation should only apply where market forces are not functioning effectively and that regulation should be withdrawn once competition is sustainable:

*"...ex ante regulatory obligations designed to ensure effective competition are justified only for undertakings which have financed infrastructure on the basis of special or exclusive rights in areas where there are legal, technical or economic barriers to market entry, in particular for construction of network infrastructure, or which are vertically integrated entities owning and/or operating network infrastructure for delivery of services to customers and also providing services over that infrastructure, to which their competitors necessarily require access."*⁷⁰

- 2.12 Hence, the Commission determined that local loop unbundling requirements should only apply to incumbent local exchange carriers:

⁶⁸ EC Proposal on Access and Interconnection, July 2000 at 2.

⁶⁹ EC Proposal on Access and Interconnection, July 2000 at 3.

⁷⁰ EC Proposal on Common regulatory framework, July 2000 at 11.

“...the 1999 Communications Review stresses the importance of enabling the sector to develop infrastructures which promote the growth of electronic communications and e-commerce and the importance of regulating in a way that supports this growth. .. the unbundling of the local loop is currently mainly relevant to the copper infrastructure of a dominant entity and that investment in alternative infrastructures must have the possibility of ensuring a reasonable rate of return, since that might facilitate the expansion of these infrastructures in areas where their penetration is still low... it is appropriate to mandate unbundled access to the copper local loops only of those network operators that have been designated by their national regulatory authority as having significant market power under the relevant Community provisions.”⁷¹

- 2.13 The Commission adopted a declaration process for access and interconnection services which is broadly similar to Part XIC. The current EU Interconnection Directive takes the approach of specifying a "laundry list" of services which are subject to access and interconnection regulation. The Commission considered that the current approach was inappropriate because it failed to address the emergence of new wholesale services which may need to be regulated and to withdraw regulation of existing services as wholesale competition emerged.
- 2.14 The Commission also considered that convergence had not progressed far enough to warrant the establishment of a single regulatory regime for telecommunications and broadcasting. Content based regulation in telecommunications and broadcasting also continued to be driven by different political and social requirements which precluded a single regulatory approach.

However, the Commission acknowledged the market distortions which could be caused if differential access and interconnection regulation applied to digital transmission networks which were capable of carrying multiple channels and services. Accordingly, while not recommending a full merger of broadcasting and telecommunications regulation, the Commission proposed that a single access and interconnection regulatory framework should apply to all transmission networks.

“The convergence of the telecommunications, media and information technology sectors means all transmission networks and services should be subject to a single regulatory framework.”⁷²

⁷¹ EC recommendation on Local Loop Unbundling, 12 July 2000 at pg 4.

⁷² EC recommendation on Common regulatory framework, 12 July 2000 at pg 8.

United Kingdom

2.15 The United Kingdom liberalised its telecommunications market several years before Australia. When introducing the 1991 regulatory regime, the Minister said that the Government had learnt the lessons from the UK experience and introduced a regulatory regime which was superior to the UK approach.

2.16 However, over the last ten years, the Australian and UK regulatory regimes have moved in very different directions. The UK regulatory regime has tended to increase the level of industry specific regulation and shifted from a reliance on ex post to ex ante rules as it seeks to address the incumbent's entrenched market power. Australia has sought to homogenize industry-specific regulation over the last ten years.

2.17 The UK market outperforms the Australian market on many criteria. The UK retail prices are significantly below Australian prices. BT has lost much more market share than Telstra. BT's interconnection prices are significantly below Telstra's.

Factor	UK	Australia
Charges for residential basket (OECD)	13 th in OECD	21 st in OECD
Charges for business basket (OECD)	16 th in OECD	26 th in OECD
Interconnect price	3 rd in OECD	25 th ⁷³ in OECD, 17 th ⁷⁴ in OECD

2.18 In a speech to the World Telecommunications Conference, the Director-General of OFTEL set out the following minimum safeguards which he regarded as the bare essentials required for continuing effective competition in telecommunications markets:

◆ *Transparency of Incumbent's Costs*

“Unfair pricing at retail or wholesale level is the main issue for new entrants. They need to make a pitch for new business in fair competition. Having in place a sound accounting separation system and an understanding of the incumbent's cost allocation processes is critical for the regulator. As much of this information as possible must be published so that competitors have the

⁷³ Prior to ACCC interconnection regulatory decisions.

⁷⁴ After ACCC interconnection decision July 2000.

opportunity to scrutinise how, at a broad level, costs are derived. From the experience of running their own networks, they can tell the regulator where things look fishy.”

◆ **Interconnection**

“This is absolutely critical to the new entrant’s business. It can amount to up to 50% of his costs. New regulators absolutely have to bite the bullet on this. There is a whole series of things that need to be sorted out: establishing standard contracts, what services should be interconnected, how is interconnect effected, how is insuring parity of quality of interconnection ensured. And, of course, interconnection charges are the central issue. Long run incremental costs are the only way to go. The EU has now signed up to this and the states are trying to achieve it.”

◆ **Barriers to Entry**

“Frankly, in the UK, we didn’t move fast enough, early enough. All sorts of things for some time remained unchallenged in the regulatory framework which actually gave BT a significant advantage. The control of numbering, for example, should be taken from the incumbent as early as possible. This must be an absolute priority. Similarly, sorting out the competition issues arising from the incumbent’s unrivalled access to customer information both for its own use and for directory inquiry services has to be addressed. There are many others. ‘Search and destroy’ is my message to government and regulators just starting out along the tough road of promoting competition.”

◆ **Retail Pricing**

“Consumers will be looking to the regulator to ensure that he constrains the incumbent’s power to raise prices. Their prices need to be subject to price caps...”

Look also at margin squeeze. Regulators must make sure that there is a reasonable margin between the level of interconnection charges (which will be what the incumbent is paying itself through transfer charges) and retail prices. If there isn’t enough margin to make a business then competition won’t develop.

Discounts and the ability to offer selective deals must be closely regulated. Otherwise the incumbent will pick off competitors in individual sectors one by

*one. Discount should be kept separate from retail price caps and should be available only when applied to a broadly defined group of customers.”*⁷⁵

- 2.19 The UK is currently in the middle of a review of its Telecommunications Act. In July 2000, the UK regulator, OFTEL, published a statement of its views on the key features of future regulation. OFTEL reaffirms its commitment to the maintenance of communications-specific regulation in a converging world. Convergence, as far as OFTEL is concerned, may necessitate the gradual harmonisation of regulatory frameworks, but it does not diminish the need for sector-specific regulation:

*“In the past, the telecommunications consumer in the UK has benefited considerably from regulatory action to underpin competition. This approach, now reinforced by the Competition Act, is an effective start point for creating the right model for the converged world.”*⁷⁶

“Rules over and above general competition law are needed to deal rapidly with competition issues, including high barriers to entry, problems arising from the legacy of historic monopolies and risks of anti-competitive behaviour caused by vertical integration and spectrum constraints. These features apply across the electronic communications markets. Communications markets also possess certain special characteristics, which give rise to competitive concerns for which ex ante regulation is appropriate. These include interconnection, interoperability, spectrum, numbering and call termination.

*“Reliance upon general competition law is more uncertain in effect and is considerably slower in implementation. In fast-moving markets, delays can cause serious damage to the competitive process.”*⁷⁷

- 2.20 OFTEL recognises the enduring nature of market power in communications markets retained by operators with control over bottlenecks:

“Because direct access routes into the home or workplace will remain limited, companies with market power in access to networks (and/or gateways) have the ability (and may have the incentive) to foreclose markets for services.

⁷⁵ Don Cruickshank, Director General of OFTEL, *Speech to the Financial Times World Telecommunications Conference*, 1 December 1997 at 4-6.

⁷⁶ OFTEL, *Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 2.

⁷⁷ OFTEL, *Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 8.

Regulatory action is the most rapid, proportionate and effective public policy lever to prevent this.”⁷⁸

- 2.21 While OFTEL considered convergence to be basically positive, it also recognised convergent forces may tend towards monopolisation:

“The emergence of new services and the development of existing services is likely to grow the overall information market, providing new routes to the consumer...However it is already clear that convergence could have potentially negative as well as positive effects, which underlines the need for a comprehensive policy response.”⁷⁹

“A controller of the ‘final last mile’ might seek to exploit this control over content creators or service providers, or both, by dictating the conditions under which content is made available, with the implicit threat of refusal to convey such content to users. It will be important to ensure that such power is not abused in order to protect consumer choice, competition and plurality and diversity.”⁸⁰

- 2.22 OFTEL highlights the fundamental importance and value of ex-ante rules over ex post remedies in dealing with the incumbent’s power:

“The development of competition in unmetered access to the internet and the unbundling of the local loop illustrate how ex ante sectoral intervention should stimulate competition.”⁸¹

“ex-ante rules and the need for compliance will be at the heart of the regulatory framework.”⁸²

- 2.23 OFTEL identified the following key ex ante regulatory requirements:

- (a) requirements on network and facilities’ operators with significant market power to ensure that they offer interconnection on a non-discriminatory basis, publish prices and set out the terms on which they provide interconnection;

⁷⁸ OFTEL, *Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 2.

⁷⁹ OFTEL, *Beyond the Telephone, The Television and The PC – II and III*, <http://oftel.gov.uk/broadcast/betel198.htm>, page 4.

⁸⁰ OFTEL, *Beyond the Telephone, The Television and The PC – II*, <http://oftel.gov.uk/broadcast/betel198.htm>, page 10.

⁸¹ OFTEL, *Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 3.

⁸² OFTEL, *Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 4.

- (b) requirements to prevent vertical margin squeezing, by network and facilities' operators with significant market power, including separate regulatory accounts;
- (c) rules against unfair cross-subsidies by network and facilities' operators with significant market power;
- (d) rules on network and facilities' operators with significant market power prohibiting undue discrimination and undue preference (between the firm's own business and that of third parties as well as between third parties);⁸³

New Zealand

2.24 New Zealand's current approach to regulation can be summarised as follows:

- (a) the private ownership of Telecom, which both owns the "local loop" and is active in almost all other telecommunications markets;
- (b) reliance on general competition law (the Commerce Act) in respect of:
 - (i) the terms on which Telecom provides its competitors with access to its network;
 - (ii) pricing and competitive practices engaged in by Telecom or its competitors;
 - (iii) entry into, or amalgamations within, particular electronic communications markets, by either Telecom or its competitors;
 - (iv) no independent oversight of the technical standards Telecom requires for connections to its network;
 - (v) limited disclosure obligations on the incumbent; and
 - (vi) industry self-regulation of the telephone numbering system (under the Number Administration Deed).

2.25 The Inquiry's Draft Report concluded that:

⁸³ *OFTEL, Communications Regulation in the UK*, July 2000, <http://oftel.gov.uk/about/whit0700.htm>, page 6.

*“Underlying New Zealand’s approach to date has been a view that market forces will break down market power, that markets work best when regulations are minimised, and that general competition law is better than industry-specific regulation. New Zealand’s general approach of relying on general competition law and voluntary industry self-management is a desirable ideal. For telecommunications, however, this approach has not been fully effective, even when backed up by the threat of industry-specific regulation. The Inquiry accordingly favours industry self-management with a regulatory underpinning.”*⁸⁴

2.26 The Inquiry has found that its current regulatory system is not serving it well:

“It is apparent ... that a number of initiatives have been hindered by lengthy disputes and the absence of a commonly agreed set of principles governing matters such as interconnection, wholesale of telecommunications services, and allocation of telephone numbers.”

2.27 The Inquiry:

- (a) recognised the continuing unique economic characteristics in electronic communications markets concerning:
 - (i) the singular control of fixed line monopoly building block inputs,
 - (ii) economies of scale, scope and density,
 - (iii) vertical integration; and
 - (iv) network effects.
- (b) recognised the failure of general competition law as a regulators tool to prevent abuses of market power in electronic communications markets and deliver consumer benefits;
- (c) recommended the establishment of a comprehensive, sector-specific regulatory regime targeted at the market power of this incumbent including both an access regime and behavioural rules.

⁸⁴

Draft Report of the Ministerial Inquiry into Telecommunications.

- 2.28 The Inquiry considered reliance on the judicial system inherent in a general competition approach was unsuitable given the special features of the telecommunications industry:

“the existing system of relying on the Courts, arbitration, or industry self-regulation to resolve disputes relating to matters such as terms and conditions of interconnection, number allocation and portability, and access to billing information, has resulted, and has the potential to continue to result, in significant delays...

reliance on the Court system or on arbitration has not provided consistent and clearly articulated guidelines in respect of existing access issues and is unlikely to do so in respect of emerging issues”

- 2.29 The Productivity Commission international benchmarking study seems to confirm that reliance on general competition law has been to the cost of New Zealand competition and consumers. The Commission found that New Zealand prices were high — in February 1998, New Zealand prices were the highest in four of the six call types benchmarked. By June 1999, the New Zealand prices were still the most expensive in three of the six call types benchmarked. These findings were entirely consistent with the results of other international benchmarking studies such as those undertaken by the OECD.

- 2.30 The Inquiry recommended a “slimmed down” version of the Australian regulatory (excluding Part XIB) as follows:

- (a) an Electronic Communications Industry Forum, with statutory backing and wide membership, to self-manage solutions to common industry problems;
- (b) an Electronic Communications Commissioner, with clearly defined responsibilities and powers, to regulate designated electronic communications services where general competition law and industry self-regulation are ineffective.”⁸⁵ and
- (c) while industry self-regulation does have the potential to deliver such outcomes, it is unlikely to do so in the absence of an effective regulatory back-stop.

⁸⁵ Ministerial Inquiry into Telecommunications — Draft Report, June 2000. P. 1

2.31 The Commissioner would:

- (a) make recommendations to the Minister of Communications that specific electronic communications services (“designated services”) become subject to regulation, and recommend the pricing principles to apply to them;
- (b) encourage industry participants to negotiate their own commercial arrangements in respect of designated services, and only intervene at the request of a party to such negotiations or where any agreement is not consistent with the designation criteria;
- (c) in such circumstances, deliver an interim determination and pursue a public consultation process before issuing a final determination (if necessary); and
- (d) be responsible for developing, together with the Forum, information requirements, standards and codes of practice that would apply to designated services.
- (e) The Commissioner would also be an Associate Commissioner of the Commerce Commission and would participate in Commerce Commission hearings on electronic communications issues.

2.32 The criteria to guide the ECC in deciding which services to designate again bears a striking resemblance to current Australian arrangements:

“Electronic communications services would be designated, or removed from the list of designated services, through a public consultation process managed by the Commissioner. The final decision would be taken by the Minister of Communications, based on recommendations from the Commissioner.

For a service to be designated, it must meet the designation criteria set out below.

The objective of designation is to promote the long-term interests of end users of electronic communication services. In determining whether any designation will promote this objective, regard must be had to the extent to which designation:

- *facilitates competition in markets for services; and/or*
- *promotes efficient any-to-any connectivity; and/or*

- *encourages economically efficient use of, and economically efficient investment in, the infrastructure by which services are supplied.*

*Designation of a service would not preclude parties from reaching their own commercial arrangements. It would, however, ensure a back-stop procedure was in place for resolving any disputes expeditiously. It would also enable the Commissioner to intervene if any agreement was not consistent with the designation criteria.”*⁸⁶

Comparing Ireland and New Zealand

- 2.33 It is often difficult to objectively determine the direct effects of a particular regulatory approach. It is possible, however, to make some comparative assessment of the outcomes in countries which have followed markedly different regulatory strategies. For example, if two similar countries were to take very different regulatory approaches, the results would be apparent. It is in this context that New Zealand’s experience, using general competition law and Ireland’s experience, using sector-specific law, over the last decade are particularly informative.
- 2.34 As the following table shows, there are many striking comparisons between New Zealand and Ireland – they have similar population bases, GDPs and income levels, but they have taken very different regulatory approaches to electronic communications markets. Ireland and New Zealand therefore offer a good basis for comparing the benefits of alternative regulatory approaches.⁸⁷

⁸⁶ Ministerial Inquiry into Telecommunications — Draft Report, June 2000. p. 2

⁸⁷ CLEAR notes Sources: OECD Telecommunications Database, Interconnect@Ovum, 2000, NZ MED, Irish Department of Foreign Affairs Fact Sheets. This table compares Ireland and New Zealand on a number of important economic, geographic and industry indicators. It tests the claims to be found in NZ Telecom’s submission to the Ministerial Inquiry into Telecommunications. It is not, however, clear what is meant by some of the indicators used in that submission to differentiate New Zealand from all other jurisdictions, for example, “scale” (presumably market size) and “geography” (presumably rugged terrain).

	Ireland	New Zealand
Population	3,632,944	3,662,265
GDP	\$67.1 billion	\$61.1 billion
GDP per capita	\$18,600	\$17,000
Budget (expenditure)	\$20.6 billion	\$23.7 billion
% Urban	52%	80%
GDP by sector: Agriculture	7%	9%
Industry	39%	25%
Services	54%	66%
Public telecommunications investment*	US\$578.8 million	US\$399.3 million
Investment as a % of revenue*	27.56%	17.27%
Investment per access line*	US\$385.86	US\$217.02
Investment per capita*	US\$162.63	US\$109.67
No of access lines*	1.5 million	1.8 million
Public telecoms revenue*	US\$2.13 billion	US\$2.25 billion
Public telecoms revenue per capita*	US\$590	US\$635
Public s revenue per access line*	US\$1400	US\$1256
Public telecoms revenue as a % of GDP*	2.92%	3.48%
* = 1997 figures, US dollar figures at PPP.		

Ireland's regulatory path

2.35 After initially delaying telecommunications reform, a strong consensus developed in Ireland that effective telecommunications regulation is a key driver of the information society, and that regulatory policy had the potential to transform the Ireland economy:

*“Failure to act would also mean missing out on the opportunities to improve the social inclusion process through the use of information and communication technologies. The Government has concluded that, in order to prepare Ireland for the Information Society and to take full advantage of the opportunities available to Ireland, a comprehensive action framework is required.”*⁸⁸

⁸⁸ Information Society Ireland, *Implementing the Information Society in Ireland: An Action Plan*, January 1999, at paras 2-4.

2.36 The key features of the regime implemented by the Irish Government are:

- (a) the implementation of a comprehensive sector-specific regulatory regime for electronic communications markets;
- (b) targeting regulation where it is most needed – at operators with significant market power;
- (c) reliance on ex-ante rules to address potential conduct problems;
- (d) placing the onus of proof on operators with significant market power to demonstrate that they are complying with the regulatory regime; and
- (e) implementing a forward-looking, cost-based interconnection model, and applying international benchmarking of prices in the interim.

2.37 The Irish regulatory system is based on the EC approach which recognises that regulatory intervention is generally only required for operators with significant market power:

*“In terms of encouraging market entry, I do not mean crutches for new entrants. I want them to get tough quick and stay tough. I want a regime in which they can prosper through their own effort, but nevertheless recognising that they will be facing a very powerful incumbent and that a degree of asymmetry may be required whilst the incumbent retains its power... A strong incumbent can, if so inclined, make life difficult, if not impossible, for new entrants. **The market is asymmetric and regulation has to be as well.**”⁸⁹*

“If we are really serious about promoting and ensuring competition – we must have asymmetric regulation. Put another way this is “the bigger you are, the bigger must be your commitment to trade fairly”. Is this unfair to the incumbent? No. To take any other approach would be to freeze us into maintaining the status quo.”⁹⁰

⁸⁹ Eoin Doyle, *The New Regulatory Body: The ODTR*, Speech to Irish Telecommunications 98, November 1998, at 7.

⁹⁰ Eoin Doyle, Director of Telecommunications Regulation, *Regulation: Realities and Priorities*, ODTR 98/17, June 1998.

Ireland's performance

2.38 Although Ireland only liberalised its telecommunications markets just over 2 years ago, OECD indicators reveal that in that time it has made substantial progress in many respects, particularly in key information economy services such as leased data lines. Ireland has set itself the objective of achieving "a sector which is in the top quartile of OECD indicators in terms of price, quality, range of services so that the Irish consumer can derive maximum advantage"⁹¹. Ireland sees this goal as the minimum necessary to ensure its place in the information economy. It has managed to make remarkably rapid progress towards this goal.

2.39 For example, in just over two years since the decision to implement a LRIC model for interconnection pricing was made, the incumbent's interconnection charges have fallen significantly and are now approaching world's best practice prices and Ireland's OECD benchmark goals. The Irish regulator recently announced the latest rates which:

*"... represent a drop of almost 23% on those being paid by operators at the end of 1999. These new rates follow from the Director's decision on interconnect matters published in April this year ... Today's announcement represents an excellent opportunity for the other operators to significantly increase competition with eircom, providing opportunities for price reductions and for additional market growth. The new rates are very competitive and well within the EU best practice benchmarks."*⁹²

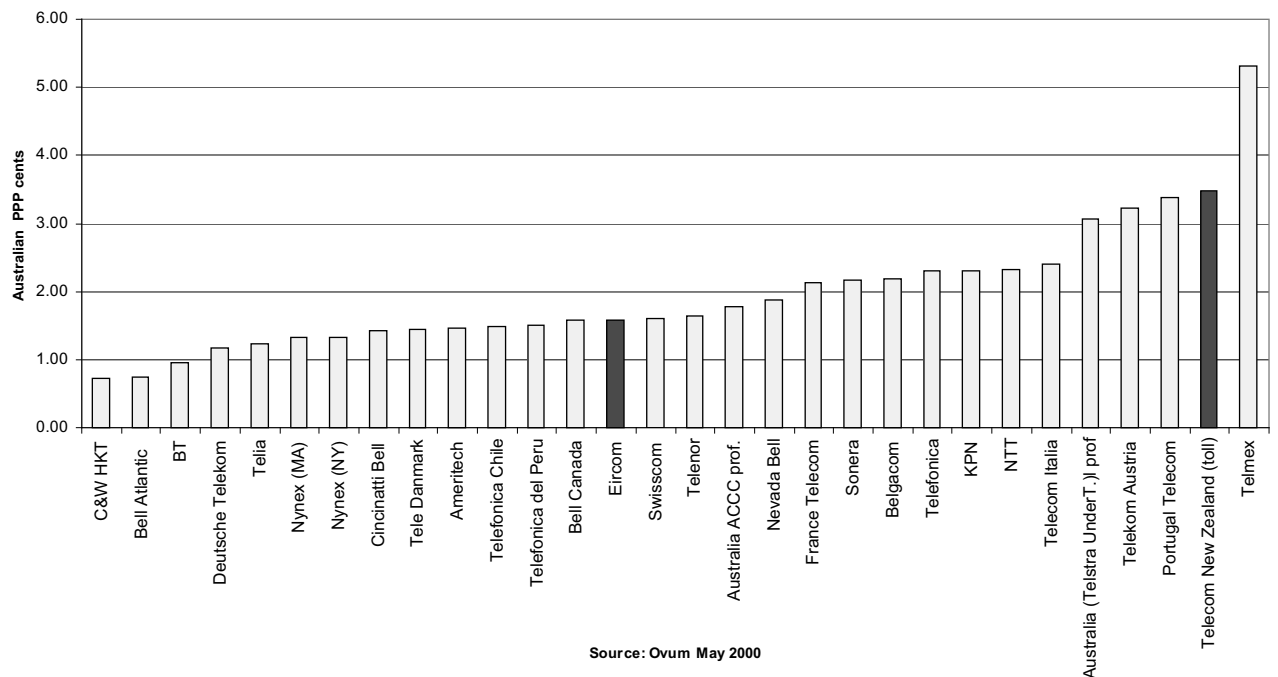
2.40 As the following chart shows, before the 23% price reduction, Ireland's interconnection rates ranked 14th best in the OECD rankings. Telstra's original interconnect prices ranked Australia as 25th out of the 29 OECD countries, while the ACCC's new pricing improves Australia's position to 17th – still well behind where Ireland was before the new prices. Ireland has now moved well into the top quartile.

2.41 The contrast between different regulatory approaches is most apparent, however, when Ireland's performance is compared to New Zealand's over the time period since Ireland has managed to greatly improve its performance while New Zealand has been gradually falling behind most comparable countries. As the following chart shows, New Zealand's interconnection charges are the highest in the OECD bar Mexico.

⁹¹ Department of Public Enterprise, Communications Policy – Statement of Regulatory Policy, 19 April 1999. <http://www.irlgov.ie/tec/communications/commstra.htm>

⁹² ODTR, Press Release, Telecoms Regulator welcomes new Interconnect rates from eircom - 23 % drop on 1999 rates, 28 June 2000.

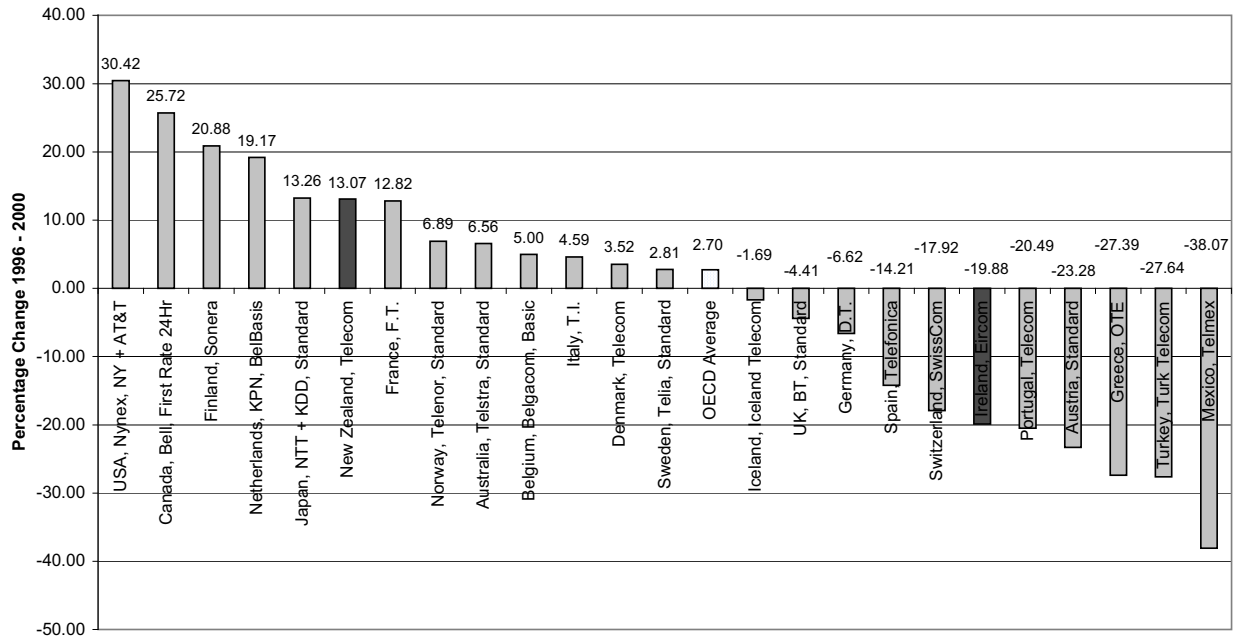
Call Termination Fixed Interconnection Charges May 2000 Gross Composite



2.42 As the following benchmarking across a number of services shows, Ireland has radically improved its performance and competitiveness in a number of key areas since it installed its regulatory system and has managed to pull well ahead of New Zealand in a very short time.

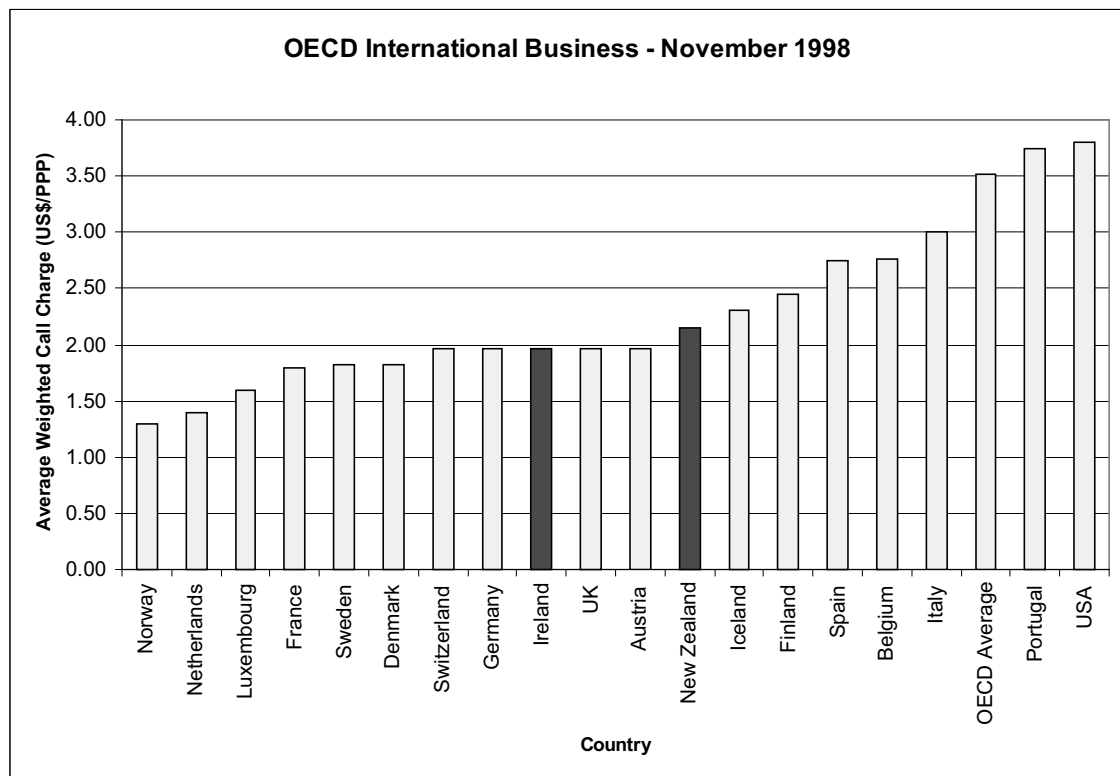
2.43 As the graph below shows, between 1996 and February 2000, the price of Ireland's OECD residential telephony basket fell by nearly 20%. During the same period, New Zealand's prices rose over 13%:

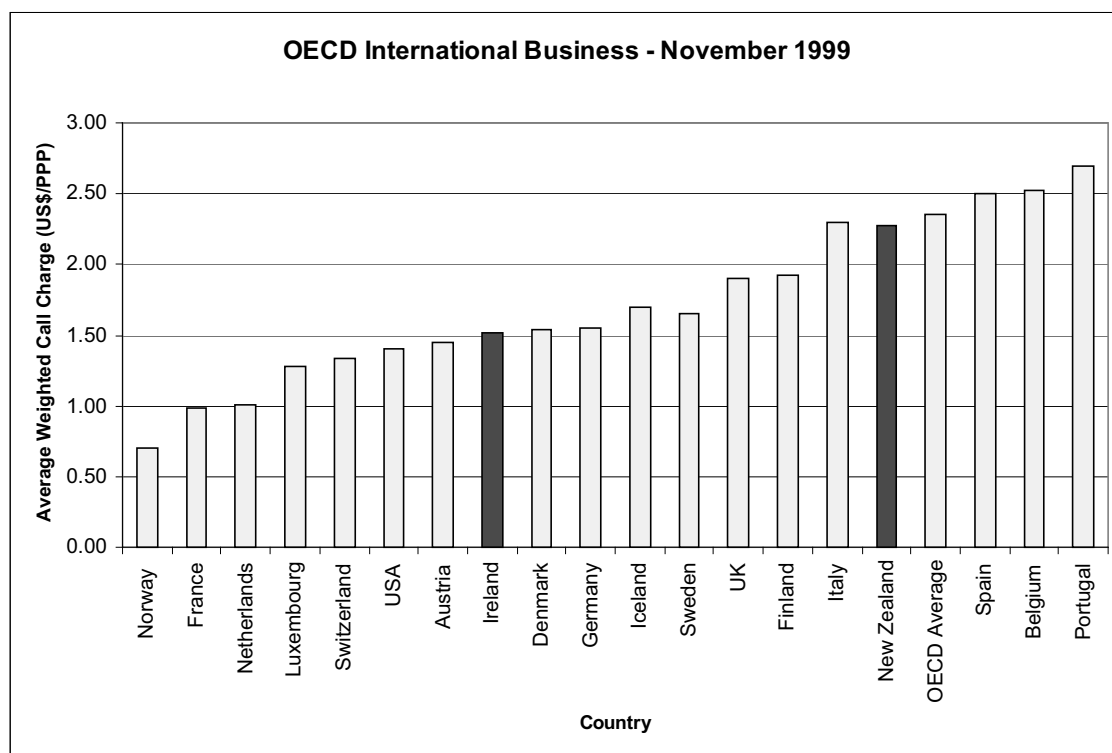
% Changes OECD National Residential Telephony Basket Results Between 1996 -2000 February 2000



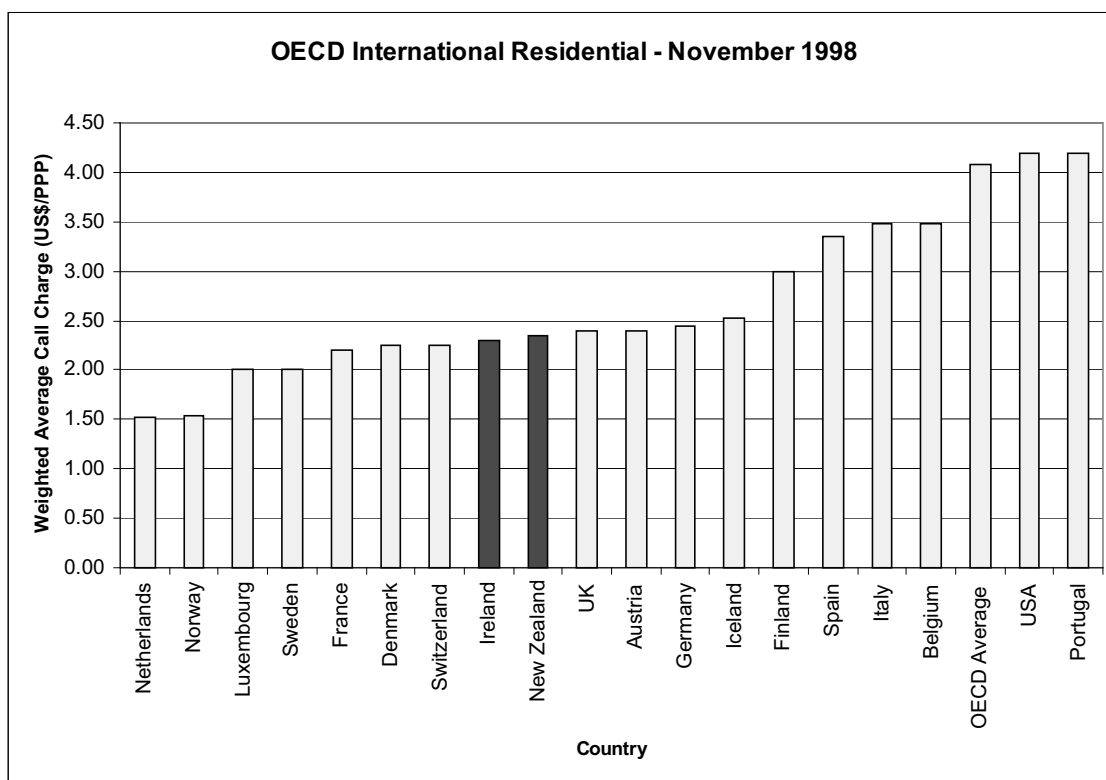
Source: Teligen - OECD

- 2.44 The following graphs compare the OECD International Business Basket. It shows that Ireland's performance has improved markedly while New Zealand's has deteriorated:





2.45 The following graphs compare according to the OECD International Residential Basket. Again, they show that Ireland's performance has improved markedly while New Zealand's has deteriorated. The pricing of data tails has also caused significant competition problems in New Zealand:



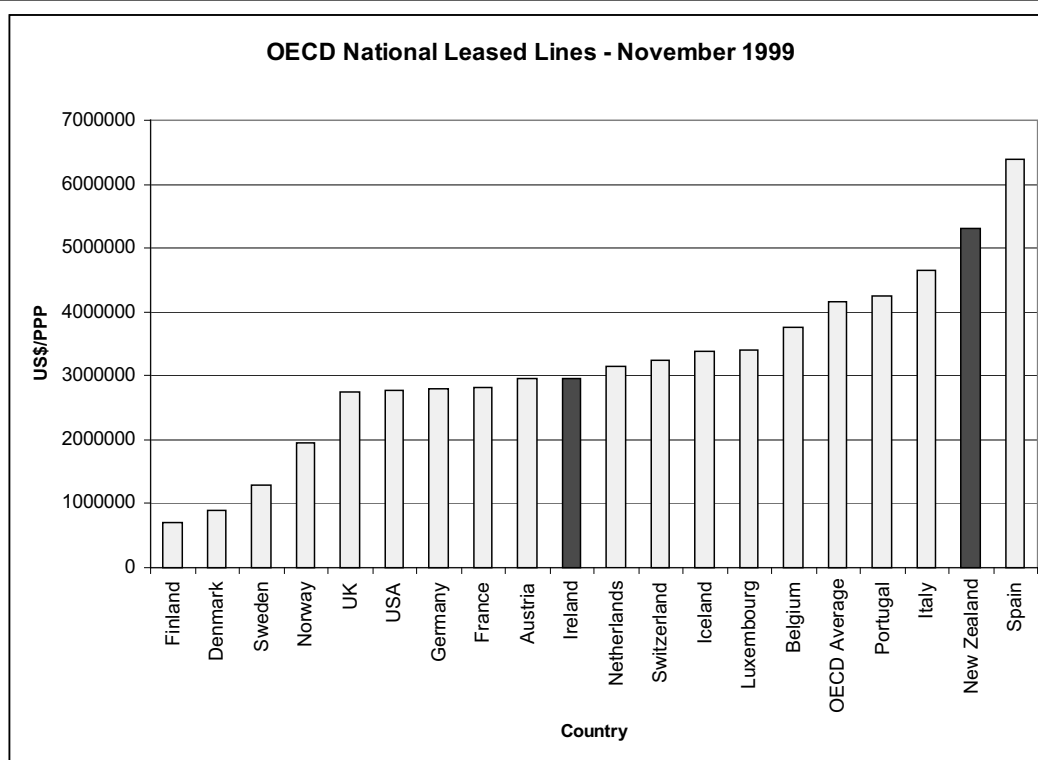
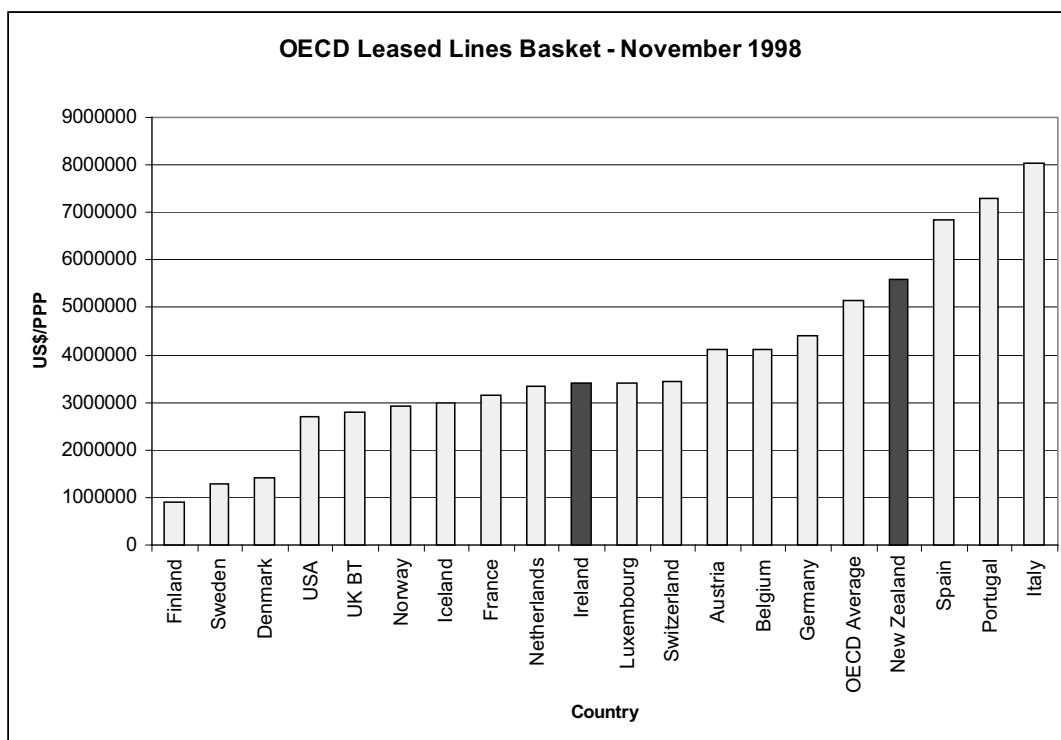
2.46 Over the 12 month period, New Zealand fell a further 5 places behind Ireland and Ireland moved up one place. New Zealand deteriorated from 55% of the OECD average to approximately 97% of the OECD average, Ireland on the other hand maintained its position with roughly 60% of the rapidly decreasing OECD average, while Ireland maintained its ranking.

2.47 The prices of monopoly supplied leased transmission capacity services are crucial to competition:

“Other operators lease lines from eircom to provide service and to enhance the reach of their network. They are of fundamental importance in facilitating competition. It is crucial therefore, that competitors to eircom can access this facility at a fair and equitable price if they are to develop their operations in Ireland. We are reviewing eircom’s costs for leased lines to verify the cost-oriented nature of their charges.”⁹³

2.48 As the following charts show, however, Ireland’s leased line pricing is improving markedly, while New Zealand’s position has declined:

⁹³ Etain Doyle, Director of Telecommunications Regulation, “A Vision of the Irish Telecoms Sector 2000+”, Speech to the Institute of Management Consultants in Ireland and the MBA Association, 17 January 2000, at 1.



2.49 Again, over the 12 month period, Telecom's leased line charges deteriorated from 160% of Ireland's to 180% of Ireland's.

Learning from Ireland's experiences

(a) *Communications-specific regulation is beneficial*

- 2.50 The Irish experience since de-regulation shows clearly that communications-specific regulation can not only be successful in a small economy, but is important for its continuing competitiveness and liberalisation. Ireland demonstrates that industry-specific regulation can be very successful in fostering competition, productivity and competitiveness:

“The development of a vibrant telecommunications sector, providing the best in price, choice and quality to users is essential to underpin our ‘Celtic Tiger’. So we need an effective regulatory regime to ensure that the sector develops as quickly as possible.”⁹⁴

- 2.51 The Irish regulator has characterised the main advantage of an industry-specific regulator in the following way:

“The regulator facilitates new services and reduced prices: market players introduce them. Operating within a clearly defined framework set out in law, but statutorily independent, regulators can make decisions to move markets forward fast to the benefit of users.”⁹⁵

- (b) *A mix of industry-specific and general competition law works and is of continuing relevance*

- 2.52 Ireland has made an assessment of the state of competition in its market and accordingly resisted attempts to move too early to a reliance on general competition law:

“The danger of moving too fast from a regulatory regime to competition law alone for those who are behind the leaders, is that they would never catch up. Without regulation to support new entry, their markets would harden and fall back into monopoly or oligopoly, with all the attendant problems of high prices and slow adoption of technology which that is likely to bring.”⁹⁶

⁹⁴ Etain Doyle, Director of Telecommunications Regulation, “EU Liberalisation and its impact on National Regulation: Telecommunications”, Speech to the Institute of European Affairs, 10 April 2000, at 5.

⁹⁵ Etain Doyle, Director of Telecommunications Regulation, Speech to the International Telecommunications Users Group, 14 June 2000.

⁹⁶ Etain Doyle, Director of Telecommunications Regulation, “EU Liberalisation and its impact on National Regulation: Telecommunications”, Speech to the Institute of European Affairs, 10 April 2000, at 13.

2.53 The Irish regulatory system therefore continues to rely on telecommunications-specific rules and regulation⁹⁷ which is underpinned by general competition law⁹⁸ - an approach adopted in most developed countries, and in line with the experience and recommendations of the European Union:

*“The success of the [EU] regulatory reforms was due to close interaction between and the complementary roles of general Competition Law and sector-specific regulation.”*⁹⁹

2.54 Ireland has demonstrated the effectiveness of this mix of general competition law and sector specific law - a dual level regulatory structure with a ‘baseline’ provided by general competition law, and more specialist rules administered by the industry-specific regulator. Although general competition law does not play a great role in the regulation of the telecommunications sector, it operates as an effective “backstop”, and the private rights of action available to “aggrieved parties” under general competition law have proved useful since industry is able to commence its own actions and thereby share the regulatory burden, rather than sole reliance on the regulator.

(c) *Ex-ante rules are necessary and effective*

2.55 The Irish regulator has recognised the importance of ex-ante rules in the regulation of telecommunications:

*“Regulators work ex-ante and must have clear tools to be effective.”*¹⁰⁰

Amongst other things, ex-ante rules substantially reduce the need for continuous regulatory supervision since boundaries are clearly defined in advance.

The Irish regulatory system recognises that regulation of access conditions is not a panacea for every competition problem in communications markets. A series of ex-ante rules contained in the licence conditions apply to operators, and primarily only to operators with significant market power, such as:

97 Postal and Telecommunications Services Act 1983.

98 Competition Act 1991

99 Herbert Ungerer, European Commission Directorate-General IV – Competition, Future Perspectives in the European Telecommunications Sector, Annual London Telecoms Conference, Warburg Dillon Read, 20 July 1999. Available at: <http://europe.eu.int/comm/dg04/speech/1999/en/sp99017.htm>

100 Etain Doyle, Director of Telecommunications Regulation, “EU Liberalisation and its impact on National Regulation: Telecommunications”, Speech to the Institute of European Affairs, 10 April 2000, at 14.

- (a) a prohibition against cross-subsidisation;
- (b) an obligation to perform accounting separation;
- (c) an obligation to provide advance notice of network changes

2.56 A similar obligation of good faith has been successfully applied to dispute resolution processes, providing similar disincentives for obfuscation, delay or abuse of process. Such an obligation has been successfully employed in Ireland.

3. Part XIC

Issues Paper Questions

This chapter addresses the following questions:

- *What are the rationales for the differing criteria for declarations under Part IIIA of the TPA, compared to the telecommunications-specific provisions in XIC? Should the criteria converge, and if so, which part of the Act should be amended?*
- *Is government regulation of telecommunications access necessary? To what extent can access issues be resolved through commercial negotiations? What is the appropriate role for industry representative bodies such as the Telecommunications Access Forum in determining access codes?*
- *How are the boundaries of telecommunications markets defined when assessing whether to declare a service? Which segments (functional, technological or geographical) of the market require access regulation?*
- *To what extent is it likely that technological and market developments – such as growing mobile and optical fibre networks – will reduce (or increase) the need for access declarations?*
- *What is the process for “undeclaring” services and is it adequate?*
- *What are the main benefits and costs of access regulations (including any assessment of their dollar values)?*
- *What impacts are the current arrangements having on the industry?*
- *Have the 1999 changes to the legislation been effective? Are any additional amendments warranted, and if so, what form should they take?*
- *What pricing models are appropriate for examining access pricing? Does the ACCC use the right conceptual approach when examining pricing issues? How can forward looking costs be appropriately calculated? How confident can the ACCC be about the accuracy and applicability of cost estimates underlying any pricing model? How is uncertainty over costs best resolved?*

- *How should overhead costs that are common to all services be included in access prices?*
- *What access pricing models are used by overseas regulators and what have been their advantages and disadvantages?*
- *To what extent could existing access pricing approaches lead to over or under-investment in infrastructure or to inefficient entry?*
- *What are the advantages and disadvantages of allowing an “access holiday” for a carrier installing new risky technologies? (Such holidays would involve a period of guaranteed immunity from declaration.)*
- *How does the access deficit affect the appropriate choice of access pricing model?*
- *To what extent does the potential desirability of price discrimination in some parts of the market (to cover lumpy investments) affect optimal access pricing?*
- *To what extent can and do access pricing models allow peak pricing during congested periods and off-peak pricing when there is substantial excess capacity?*
- *Are there issues of access other than pricing that have emerged as important (such as interconnection delays, forcing access seekers to buy bundles of services, some of which they do not want, and service quality)?*

Key Points

- Part XIC has been a crucial tool in securing the provision of a wide range of essential services that Telstra would not otherwise have had the incentive to provide on competitive terms and conditions;
- General competition law would not provide a sufficient discipline on an incumbent to supply monopoly inputs on efficient terms. Courts applying competition law have either adopted ECPR or have decided that they can only determine that a particular price is anti-competitive and cannot decide what price would be pro-competitive;
- While access prices have been substantially reduced, the Australian access regime is yet to deliver internationally competitive prices in several key areas – most notably local call resale and unbundled local loop;

- The Part XIC processes have been too slow to cope with the rapidly changing dynamics of the communications industry. The total period from the ACCC inquiry about declaration to finalisation of an arbitration can be 2-3 years;
- The ACCC has inappropriately declared wholesale services which are subject to competitive supply and are not monopoly inputs (such as mobile networks and inter-capital city transmission).

Cable & Wireless Optus considers that these problems could be ameliorated by:

- adjusting the Declaration criteria to be more closely aligned with those under Part IIIA. It is proposed the declaration criteria require the ACCC to satisfy itself that the provider of the service has a substantial degree of power in the market in which the provider is supplying the service, as a precondition to declaring the access provider(s) service.

Introduction

3.1 The economic characteristics of the local loop that give rise to Telstra's substantial market power in the local loop have been discussed at length in chapter 1. These characteristics include:

- Pervasive economies of scale, connectivity and density;
- Large fixed and sunk costs of entry;
- Economies of scope that are increasing with technological change and convergence;
- Network effects (externalities) and the need for any-to-any connectivity; and
- Non-duplication or competitive supply of the local loop.

3.2 These important features of the fixed local loop mean Telstra will maintain dominance in the supply of local loop services into the foreseeable future. In the absence of regulatory intervention Telstra is therefore able to:

- Charge monopoly prices for fixed local loop inputs; and
- Distort competition in downstream markets.

3.3 Telstra's dominance of the fixed local loop enables the firm to charge monopolistic prices for access interconnection and other building block network services that use the local loop. This chapter outlines the history of Telstra practices in relation to charging excessive prices for long-distance interconnection — thereby decreasing competition and consumer welfare. The likely interconnection prices arising if Part XIC was repealed, and the resulting consumer welfare losses, are modeled and estimated to be in the order of \$2 billion per annum.

3.4 Pro-competitive regulation of long-distance interconnection is one of several important micro-economic reforms for establishing full competition in telecommunications services. Other critical paths to entry and vigorous competition at the local exchange, where, to date, competition has remained least extensive and effective, are still awaiting competition-enhancing regulation. These services include:

- unbundling of the copper local loop; and
- local call resale.

3.5 Telstra's current practices in providing local services resale and unbundled local loop services on unreasonable terms and condition, including excessive prices, are discussed in this chapter. This practice is reducing entry, downstream competition and innovation, and lowering consumer welfare. Hence, pro-competitive interconnection regulation of these services will foster efficient and prompt competition at the local exchange level: the task of setting fair and reasonable terms of interconnection for unbundled local loop and local resale services remains to be implemented under the Part XIC access regime.

Distorting downstream competition

3.6 Control of the local loop enables Telstra to distort competition in downstream markets that are dependent on the local loop, such as local calling, internet, data and video service. Telstra, given its vertical integration, has powerful incentives to anti-competitively cross-leverage its market power into these competitive downstream markets (such as DSL technologies supplied over the unbundled copper local loop).

3.7 Achieving robust and effective competition in the suite of new services dependent on the local loop, such as high speed internet access, data and video services is especially important if Australia is to reap the full benefits of convergence. Such convergence is increasing Telstra's market power in the fixed local loop due to increased economies of scope. Hence pro-competitive access regulation establishing reasonable terms of supply of loop services is critical to the promotion of vigorous competition in

downstream markets. Such regulation prevents Telstra unfairly cross-leveraging its current market power into these new economy services. These issues are discussed in chapter 1 and 2.

- 3.8 Cable & Wireless Optus' position is consistent with the standard international regulatory approach, that favors an access regime for monopolistically supplied telecommunications services such as the fixed local loop — where prices, if necessary, are set by binding regulatory arbitration consistent with long-run incremental cost. Whilst commercial negotiation is the preferred method for achieving access solutions, the regulator requires powers to set terms of conditions of access in the event of disputes; and to provide guidance, especially in relation to price, to enhance the efficiency of private negotiations.

Scope of access regime should be aligned with substantial market power

- 3.9 The access regime's scope should be focussed on only those telecommunications services where there is substantial market power in supply of building block services. This better balances the dangers of over-regulation of competitive services versus the under regulation of monopoly services. The scope of the Telecommunications access regime has been inappropriately extended by the ACCC into two areas:

- Declaration of services that are supplied where there is effective competition; and
- Declaration of services supplied by new entrants where there is no market power.

- 3.10 Cable & Wireless Optus therefore recommends the declaration test under Part XIC be more closely aligned with the criteria under Part IIIA. It is proposed the declaration criteria require the ACCC to satisfy itself that the provider of the service has a substantial degree of power in the market in which the provider is supplying the service, as a precondition to declaring the access provider(s) service.

Access regime should remain whilst significant market failure persists

- 3.11 The fixed line customer access network is the demonstrated, and persisting, area of significant market failure in electronic communication services. Telstra, with over 95 % market share of direct local loop connections, dominates this market and will do so into the foreseeable future — for among other reasons because of the pervasive naturally monopoly cost characteristics, and economies of scope in the fixed local loop. It is inappropriate for Part XIC regulation to be repealed whilst significant market failure persists in the local loop. This is because pro-competitive access regulation has achieved, and will continue to achieve, important and significant improvements in

consumer welfare — in the absence of, and until such time as there is, a competitive market for local loop services.

- 3.12 As discussed in this chapter, access prices for interconnection set by regulation at world's best practice can rapidly date if not adjusted to reflect efficiency gains available to the incumbent through time. Hence regulatory price setting powers need to be continued until such time as the market is competitive.
- 3.13 As discussed in Chapter 1, available evidence indicates convergence is increasing Telstra's market power in the local loop; and providing Telstra with increased scope to cross-leverage its market power into newly developing multi-media markets such as data, internet, and subscription TV services.

History of interconnection in Australia

- 3.14 Originating and terminating fixed line access is the basic network input required to start and complete long-distance voice calls. Since Telstra has over 95 %¹⁰¹ of direct connections, competitors require access to Telstra's fixed network to provide long-distance calls. The price competitors pay for this access input is crucial to their competitiveness in providing long-distance services in competition against Telstra. For example the ACCC have commented¹⁰²:

“Charges for the declared PSTN services constitute a significant portion of the costs of supplying long distance, fixed-to-mobile and mobile-to-fixed calls to end-users. In the context of assessing Telstra's previous undertaking for the declared PSTN services, the Commission estimated that they constituted between 37 per cent to 42 per cent of the retail price for a national long distance call.¹⁰³ More recent information provided to the Commission indicates that the charges constitute between 40 per cent to 45 per cent of the average retail price for national and international long distance calls and approximately 30 per cent of the retail price of a fixed-to-mobile call. Consequently, charges for the declared PSTN services are likely to have a material impact on the prices charged to end-users for long distance, fixed-to-mobile and mobile-to-fixed calls.”

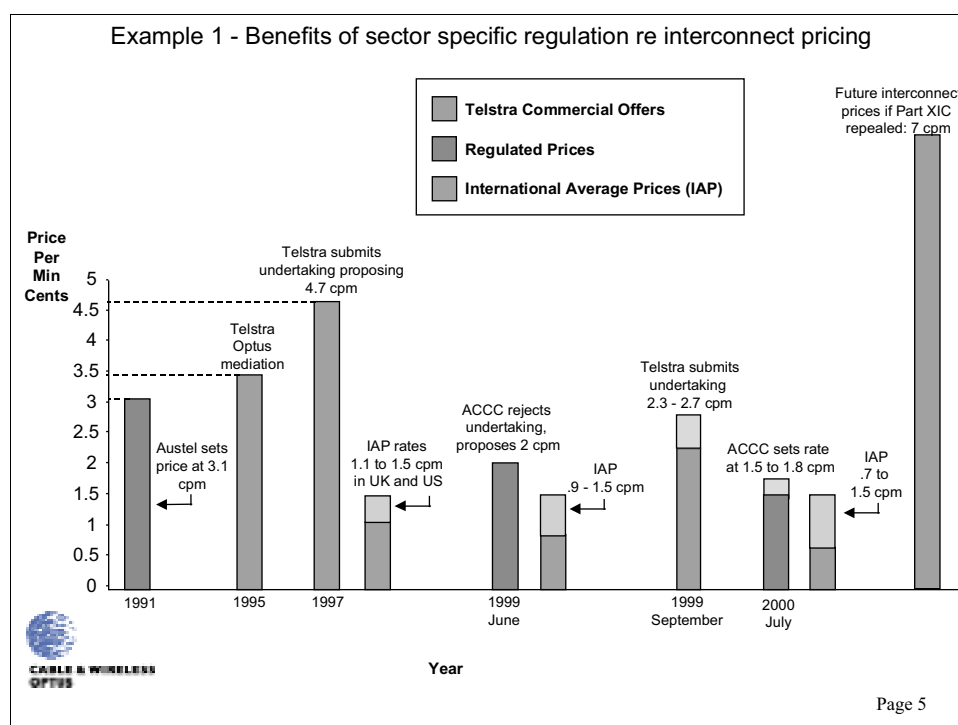
¹⁰¹ Telstra has over 10 million basic access lines (services in operation, SIOs). Cable & Wireless Optus is the only other substantive provider of direct connections with slightly over 420,000 SIOs.

¹⁰² ACCC Final Undertaking Decision July 2000 at pg 34.

¹⁰³ Australian Competition and Consumer Commission, *Assessment of Telstra's Undertaking for Domestic PSTN Originating and Terminating Access — Final decision*, June 1999, p. 90.

- 3.15 By maintaining high prices for PSTN interconnection Telstra can maintain high retail prices for long-distance calling because other carriers (carrying a higher cost base) will be less price competitive. It can be shown that, absent regulation, Telstra's commercial incentives are to negotiate interconnection prices approximating the Efficient Component Pricing Rule (ECPR).¹⁰⁴ Thereby, competitors equally as efficient Telstra could, at best, match Telstra's retail prices and gain no market share or exert any competitive discipline on the incumbent.¹⁰⁵
- 3.16 Telstra's observed commercial behavior since telecommunications liberalization and the move to open competition in 1997 is consistent with Telstra attempting to institute an ECPR price. The history of interconnect since 1991 is depicted in the following diagram:

Diagram 3.1



- 3.17 In 1991, the industry regulator Austel determined an interconnection price of 3.1 cents per minute on the basis of a LRIC (long-run incremental cost) methodology. In 1995,

¹⁰⁴ The ECPR equals the incremental cost of providing the input plus the opportunity cost of providing the input which comprises the loss of net revenue from supplying the input to the access seeker rather than in the final product market. The ECPR is also calculated according to Telstra's retail prices less the costs it avoids from not performing the downstream production activity. The ECPR indemnifies the incumbent against the loss of current, future and expected future monopoly profits associated with ownership and control of the access input.

¹⁰⁵ Competitors more efficient than Telstra are also likely to be prevented from facilities-based entry under ECPR interconnection pricing.

under the auspices of Austel mediation, Telstra raised the interconnection price payable to 3.5 cents per minute.

- 3.18 In 1997, Telstra again sought to raise this interconnection price towards an ECPR level. In November 1997 Telstra submitted an Access Undertaking to the ACCC with proposed prices of 4.7 cents per minute and offered this price commercially to other competitors. These prices were 300 per cent above world best benchmarks for interconnection pricing which at this time were at the level of 1.1 to 1.5 cents per minute.
- 3.19 The ACCC, after 13 months of bottom-up cost modeling, international benchmarking and historical cost analysis, rejected this Undertaking in a draft decision in January 1999, and indicated the prices Telstra proposed were more than 100 per cent above reasonable levels and costs. The ACCC indicated an appropriate price for interconnection was 2 cents per minute. Nevertheless, due to the considerable time taken to make the decision Telstra was able to maintain interconnection prices in the market at between 3 to 4 cents per minute over this period, thereby minimizing long-distance price competition.
- 3.20 The ACCC affirmed its 2 cents per minute charge to be a reasonable price for interconnection for financial year 1998/99 in its Final Undertaking Decision in June 1999.¹⁰⁶ The Commission expressed the following views on Telstra's Interconnection Undertaking:

“On 19 January 1999, the Commission announced its draft determination to reject the undertaking on the grounds that the non-price terms and conditions are not reasonable. The Commission also made detailed comments on the prices in the undertaking and concluded that the prices should be at least halved to be acceptable. Following the draft determination 10 parties made further submissions.

“The evidence and submissions detailed in this report form the basis of the Commission's views that the charges specified in the undertaking:

- are substantially above the estimated cost an efficient firm will incur in providing domestic PSTN originating and terminating services of around 2 cents per minute;*

¹⁰⁶ See ACCC Final Decision June 1999 “Assessment of Telstra's Undertaking for Domestic PSTN Originating and Terminating Access”

- *are above the charges in comparable overseas jurisdictions for the same services;*
- *may result in an increase in long-distance call prices to consumers;*
- *may reduce the potential benefits to consumers of competition in the market for long-distance calls by \$400 million;*
- *will particularly limit the benefits of competition to residential consumers by extending high charges to weekends and until 10.00pm on weeknights;*
- *in some circumstances appear to be above charges for its own retail operations; and*
- *are above the charges set by the Commission in June 1997.*

Further, the non-price terms and conditions in the undertaking:

- *provide Telstra with a significant amount of discretion about how, to whom and when these services will be supplied;*
- *create uncertainty; and*
- *are not reciprocal, advantaging Telstra over its competitors.*¹⁰⁷

3.21 Following changes to Retail Price Controls that permitted Telstra increased flexibility to raise residential line rental prices (rebalance), the ACCC discussion paper in September 1999¹⁰⁸ indicated the appropriate range for interconnection prices was between 1.4 to 1.8 cents per minute. Nevertheless Telstra still sought to increase interconnection charges by resubmitting another Access Undertaking¹⁰⁹ with prices of 2.7 cents per minute for financial year 1999-2000 and 2.3 cents per minute for 2000-2001¹¹⁰.

3.22 The ACCC rejected this Undertaking in April 2000 in a draft decision indicating appropriate prices for interconnection were 1.8 cents per minute for FY 1999/2000 and 1.5 cents per minute for FY 2000/2001.¹¹¹ The decision and prices were

¹⁰⁷ ACCC Final Report June 1999 at 1 and 2.

¹⁰⁸ "Interconnection charges and Telstra's access deficit", ACCC discussion paper September 1999.

¹⁰⁹ Telstra Access Undertaking to ten Australian Competition and Consumer Commission Under Division 5 of Part XIC Of the Trade Practice Act 1974 (September 2000).

¹¹⁰ This is based on the typical call profile of a competitor interconnecting to Telstra's network.

¹¹¹ "A draft report on the assessment of Telstra's undertaking for Domestic PSTN originating and Terminating Access Services" April 2000.

affirmed in the ACCC's final report where the Commission expressed the following position:

"The Commission is not satisfied that the intraCCA call related [interconnection] charges in Telstra's undertaking are reasonable.

In its view, reasonable charges would reflect the efficient costs of conveying calls between an end-user and point of interconnection, plus an access deficit contribution. Cost modelling undertaken by the Commission indicates that the charges are, on average, between 0.5 and 0.6 cents per call end minute higher than is necessary to recover efficient costs and an access deficit contribution. This results in service providers paying Telstra approximately \$80 million per year more than is necessary.

If prices were reduced to the level reflective of efficient conveyance costs plus an access deficit contribution, the Commission would expect cost savings to flow through to end-users due to competition for fixed long distance services and mobile services. If Telstra were to match the price reductions to end-users, and the Commission is of the view that this is likely to occur, it estimates that end-users would benefit by around \$230 to \$260 million per year.¹¹²

"The Commission has assessed that the excess in its proposed charges above efficient costs as determined by the Commission would result in Telstra receiving from users of the declared services extra revenue of approximately \$80 million per year. Consequently, the Commission considers the charges to be unreasonable.

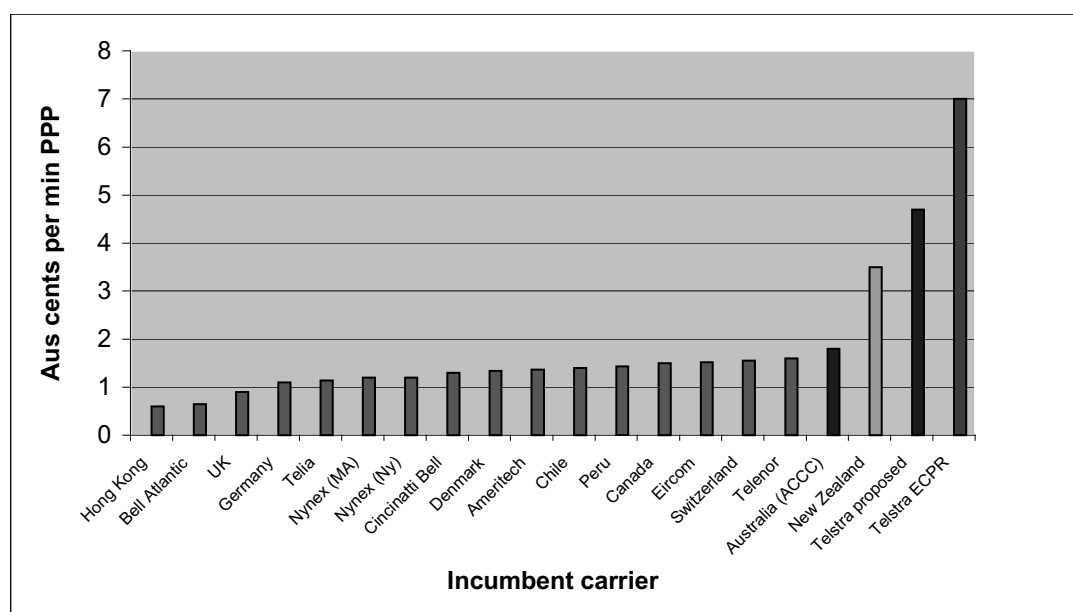
*The Commission's decision is to **reject** the undertaking."*

- 3.23 Notwithstanding the ACCC intervention, there is still some gap between Australia and world's best practice interconnect rates as found by telecommunications consultants Ovum International in their latest international benchmarking of telecommunications interconnection rates at May 2000.¹¹³ This shows interconnection prices of the sixteen best practice incumbent carriers in other countries is between 0.6 to 1.6 cents per minute.

¹¹² ACCC Final Report July 2000 at 44-45

¹¹³ Ovum "Interconnection Report", May 2000

Diagram 3.2: Fixed Line Call Termination Gross Charges May 2000



Source: Ovum Interconnection Report May 2000, Telstra Undertaking Submission

3.24 However, Australia compares favorably with New Zealand which, relying on general Trade Practices Law, has interconnection rates of 3.5 cents per minute — which probably approaches the ECPR price in New Zealand. Interconnection prices that would arise if Part XIC of the Telecommunications Act had not been implemented or was repealed, are also depicted in the above chart. This is now discussed.

3.25 If Australia relied on general competition law rather than an interconnection regime to price access to Telstra's network it is likely, given the Privy Council precedent in the Telecom NZ-Clear dispute, Telstra would seek prices consistent with the ECPR. This is consistent with Telstra's commercial negotiations over interconnect during the period 1991 to 2000, where, at each opportunity Telstra sought to raise interconnect prices towards ECPR levels.

3.26 Telstra have indicated the ECPR price for interconnection is, according to their modeling, 7 cents per minute, and such an interconnection price is "consistent with the interests of access seekers." Quoting Telstra:

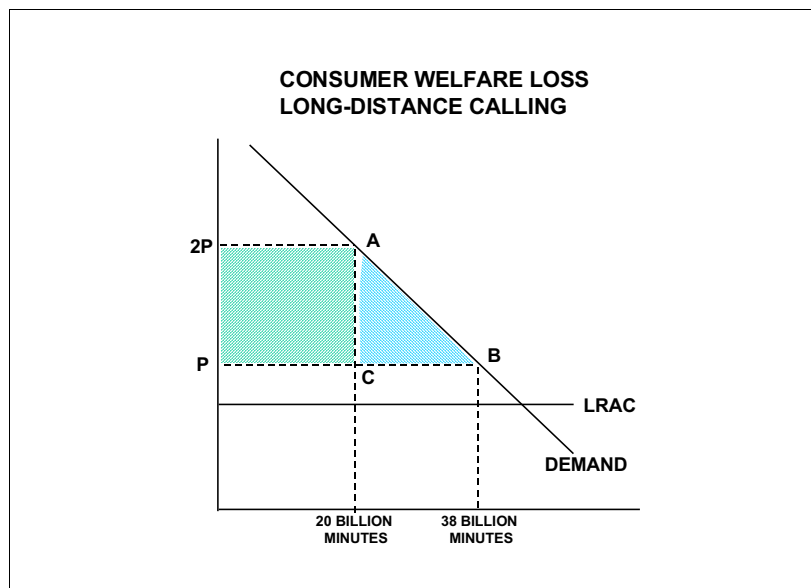
"In order to determine whether the interconnect charges proposed in Telstra's Undertaking are consistent with the interests of access seekers Telstra has calculated the access prices that would arise from the efficient component pricing rule. This calculation involves deducting from Telstra's STD and IDD retail yields the avoidable costs of these calls were they to be carried by an

access seeker via PSTN originating and terminating access. The avoidable costs include retail costs and trunk switching and transmission costs for STD and IDD calls and settlement payments for IDD calls.

Using highly conservative estimates of these avoidable costs¹¹⁴, **the maximum interconnect charge at which no-less efficient access seekers can effectively compete with Telstra is 7.0 cents per call end minute.** Making even more conservative assumptions – avoidable retail costs set at 20 per cent of the retail yield and doubling the cost of trunk transmission and switching taken from the 1997/98 COA/CAM – would reduce the ECPR interconnect rate to 5.7 cents per call end minute.”¹¹⁵ (our bolding)

- 3.27 The following estimates the welfare loss to consumers in national long-distance calling (fixed line to fixed line) without the Part XIC access regime. This is based on Telstra setting an interconnect price of 7 cents per minute. Cable & Wireless Optus has estimated, based on interconnect costs representing 40% of competitors current cost base, that if interconnection charges were increased to 7 cents per minute competitors prices for long-distance calling would need increase by more than 100 %. Telstra would be able to commensurately increase long-distance retail prices also by over 100%.

Diagram 3.3



¹¹⁴ Trunk transmission and switching costs are estimated on the basis of Telstra’s 1997-98 COA/CAM results.

¹¹⁵ Telstra Undertaking for PSTN Originating and Terminating Access Supporting Submission at 8.

- 3.28 The welfare loss to consumers from inefficiently high long-distance prices is \$1.45 billion per annum.¹¹⁶ Of this, \$450 million per annum is a loss in allocative efficiency, area ABC in the figure above, and \$1 billion per annum is a loss of consumer welfare caused by monopolistic pricing (area P,2P,A,C). Some of this latter area may be transferred to Telstra; however, as discussed by Mr Henry Ergas, most of this area could be dissipated by the monopolist in X-inefficiency, and rent-seeking behaviour to buttress its privileged position:

“It is worth noting the costs will be higher under monopoly not only because of “X-inefficiency” - that is, the wasting of resources which occurs when firms do not face competitive pressure to keep costs down - but also because the monopolist will make socially wasteful efforts (for example through investments in public relations) to buttress its privileged position. In the limiting case, a firm’s entire monopoly rents could be dissipated in outlays aimed at preserving market dominance.”¹¹⁷

- 3.29 Cable & Wireless Optus have similarly calculated the loss of consumer welfare in fixed to mobile, mobile to fixed and international calling caused by an interconnection price of 7 cents per minute. The loss of consumer welfare in fixed to mobile and mobile to fixed calling is estimated at \$330 million per annum. The loss of welfare in international calling is estimated at \$60 million per annum.¹¹⁸
- 3.30 The total static welfare loss to consumers is estimated to be \$1840 million per annum from interconnection prices of 7 cents per minute. To this figure should be added the reduction in facilities based investment and entry, less competition and innovation, and other dynamic efficiency losses associated with interconnection prices that are too high from a society’s perspective.
- 3.31 Whilst PSTN interconnection is very important to the establishment of competition in long-distance and international telephony, it is only one of several monopoly inputs requiring pro-competitive regulation to enable full local competition. These other services such as local call resale and unbundled local loop services, awaiting pro-competitive regulation, are discussed in later in this chapter. This chapter concludes

¹¹⁶ Cable & Wireless Optus estimates total national long-distance call minutes of 19 billion for this financial year, or 38 billion double ended minutes since each call has two ends. LRAC = Long-run average cost and this equals 1.5 cents per minute this financial year according to ACCC cost modeling, and 2 cents per minute according to Telstra’s PIE model. Cable & Wireless Optus’ HAI model estimates long-run average cost at less than 1 cent per minute.

¹¹⁷ H.Ergas and E.Ralph “Pricing Network Interconnection: Is the Baumol-Willig Rule the Answer?” 1994

¹¹⁸ This is using an estimated total for international outgoing minutes of 1450 million minutes per annum.

by answering the Productivity Commission's specific questions concerning whether there is a need for a Telecommunications Access Regime.

The need for access interconnection regulation

- 3.32 The Productivity Commission's issues paper inquires into whether government regulation of access is necessary and the extent to which such issues can be resolved through unfettered commercial negotiation:

Is government regulation of telecommunications access necessary? To what extent can access issues be resolved through commercial negotiations? What is the appropriate role for industry representative bodies such as the Telecommunications Access Forum in determining access codes?

- 3.33 The distinguishing features of the fixed line local loop and market characteristics discussed in chapter 1, require the continuing need for access regulation of the fixed local loop. These features are:

- (a) Pervasive economies of scale, connectivity and density;
- (b) significant economies of scope in the local loop scope between provision of local and long-distance calling, and new media services such as data, internet, and subscription TV services;
- (c) large fixed and sunk costs of entry (that detailed cost modeling indicates may be increasing through time);
- (d) positive network effects and the need for any-to-any connectivity with the largest subscriber base; and
- (e) non-duplication of the fixed local loop, Telstra is and will remain for the foreseeable future the dominant provider of fixed local loop services.

- 3.34 As discussed above, absent an interconnection regime, Telstra would attempt to commercially negotiate interconnection prices consistent with the ECPR and move interconnection prices upwards of 4 cents per minute — towards the 7 cent per minute price Telstra suggests competitors no less efficient than itself can successfully compete. The static welfare loss to consumers is in the order of \$1.8 billion per annum. There are also larger dynamic welfare losses associated with less facilities

based entry and structuralist competition¹¹⁹, incorrect investment signals, and a lower level of rivalrous competitive behavior and innovation through time.

- 3.35 There is a need for an interconnection access regime in the Telecommunications industry for fixed line network access to promote fixed line facilities based entry, and provide a framework that encourages fair, efficient and effective competition.
- 3.36 Telstra, the sole owner of the ubiquitous fixed local loop, should not be permitted to use this natural monopoly infrastructure to unfairly extend its dominance into inherently competitive¹²⁰ voice telephony markets such as long-distance and international calling, and the newly emerging multi-media markets such as high speed internet access, subscription TV, video and other electronic communication services. Industry self-regulation cannot resolve such issues because there is no mutuality of interests or consensus amongst the competing firms and Telstra — which is a necessary condition for successful self-regulation.
- 3.37 Telstra agrees with the need for Telecommunications specific interconnection regulation. For example in the context of the New Zealand Telecommunications inquiry Telstra has recommended the following:

“The Following paragraphs describe the specific regulatory amendments which Telstra Saturn recommends:

“Access and Interconnection Principles

The establishment of clearly defined, and enforceable principles to govern interconnection and access. These principles should govern the operators of telecommunications facilities. In defining who that applies to, the focus should be on

¹¹⁹ It is sometimes thought that high fixed line interconnection prices promote facilities based entry. This is not correct because the entrant is competitively interdependent with the incumbent's network. For example, the United Kingdom has the highest level of facilities based competition in the world and very low interconnect prices; the situation is similar in the United States. By contrast, New Zealand has very little facilities based competition and high interconnect prices. High interconnect prices can lower entry because the prospective entrant will have a very high cost base for terminating calls to the incumbent's larger network subscriber base. This deters entry, especially if the entrant has an expectation the incumbent may price intra-network retail calls at cost oriented levels. In addition, fixed line interconnection prices above TSLRIC send economically incorrect build-buy signals for firms contemplating alternative paths to entry, leading to inefficient by-pass. See, for example, The Affidavit of Professors Baumol, Willig and Ordover to the FCC, April 1996.

¹²⁰ These downstream markets are inherently competitive or inherently contestable because the cost structures in these downstream markets are not subject to pervasive economies of scale or natural monopoly (i.e support multiple competitors). Hence, once access to the local loop is provided to competitors on equivalent terms as the incumbent provides itself, competition in these markets will be vigorous, effective, and efficient; in consumers best interests.

determining what particular facilities are essential to the operation of a competitive communications marketplace. These relevant principles should comprise:

- *A clear obligation of "any to any" connectivity between network operators so that there is an obligation to deliver calls between networks.*
- *Principles of non-discrimination in relation to these basic services, so that the network operator is required to take all reasonable steps to ensure that the technical and operational quality of the service supplied, and the processes for fault detection, handling and rectification in relation to when these services are supplied, are equivalent to that which the network provider provides to itself.*
- *Interconnection must be on "fair and reasonable" terms. This means pricing should be based on forward looking costs of an efficient operator, where those costs are real rather than being purely theoretical. ...*
- *Interconnection and access terms should, in the first instance, be agreed by the parties through commercial negotiation.*
- ***The parties must have access to a fast track dispute resolution process (most likely arbitration). This is needed in order to ensure the timely and cost effective resolution of interconnection/access disputes. Given the small size of the New Zealand market, the arbitrator could be drawn from an arbitration panel comprised of industry experts from New Zealand/Australia. The arbitrator's decision would be final and binding on both parties, subject to a right of appeal on points of law. The arbitrator would be required to apply the interconnection/access principles described above.***
- *The relevant Minister, acting on the recommendation of the Commerce Commission, should have an overriding discretion to determine the application of these principles where this is necessary to maintain competition, or benefit consumers.*
- *"Bottleneck services, such as originating and terminating access, are key services for network operators. Pricing of those services, and the technical and*

*operational details which govern the interaction of the networks, are **obvious areas in which incumbent operators can exercise market power.***”¹²¹

Further Tasks Under Part XIC Access Regime

3.38 As discussed in this chapter, Telstra maintains dominance in the provision of fixed local network services. There are multiple methods for promoting the spread of competition in the local loop in a manner that increases consumer welfare. In particular, entry and competition can be promoted through local services resale and unbundling the local loop.

3.39 As discussed by Professors Baumol, Willig and Ordover:

“Passage of the 1996 Telecommunications Act offers an invaluable opportunity to extend the benefits of competition to users of every product and segment of the industry, especially the local exchange, where competition has been least extensive and effective. Availability of unbundled network elements for sale at prices based on economic costs will foster efficient and prompt competition at all levels — from resale alone at one end of the spectrum, to full facilities-based at the other, and through the broad middle range of partially-facilities based competition. All of these forms of competition can benefit end users, bringing new vitality, innovation, pressures for cost-efficiency, and superior customer service to the market. But the fundamental policy of the 1996 Act — extending all form of competition to the markets where it is now absent — cannot be attained unless the pricing principles here are carried out. Misguided allegiance to prior regulatory norms or departure from the logic of free and competitive markets would frustrate the central goals of the Act. ...

Where, as here, markets are ineffectively competitive and regulatory oversight is warranted, regulators should set prices that replicate as closely as possible, the prices that would prevail in competitive markets.”

3.40 As discussed by the US Federal Communications Commission in its First Report and Order:

“The Act contemplates three paths of entry into the local market -- the construction of new networks, the use of unbundled elements of the

¹²¹ Telstra Saturn submission to the New Zealand Telecommunications Inquiry at 10-11. Emphasis added.

incumbent's network, and resale. The 1996 Act requires us to implement rules that eliminate statutory and regulatory barriers and remove economic impediments to each. We anticipate that some new entrants will follow multiple paths of entry as market conditions and access to capital permit. Some may enter by relying at first entirely on resale of the incumbent's services and then gradually deploying their own facilities. This strategy was employed successfully by MCI and Sprint in the interexchange market during the 1970's and 1980's. Others may use a combination of entry strategies simultaneously -- whether in the same geographic market or in different ones. Some competitors may use unbundled network elements in combination with their own facilities to serve densely populated sections of an incumbent LEC's service territory, while using resold services to reach customers in less densely populated areas. Still other new entrants may pursue a single entry strategy that does not vary by geographic region or over time. Section 251 neither explicitly nor implicitly expresses a preference for one particular entry strategy. Moreover, given the likelihood that entrants will combine or alter entry strategies over time, an attempt to indicate such a preference in our section 251 rules may have unintended and undesirable results. Rather, our obligation in this proceeding is to establish rules that will ensure that all pro-competitive entry strategies may be explored. As to success or failure, we look to the market, not to regulation, for the answer."...

"Congress recognized that, because of the incumbent LEC's incentives and superior bargaining power, its negotiations with new entrants over the terms of such agreements would be quite different from typical commercial negotiations. As distinct from bilateral commercial negotiation, the new entrant comes to the table with little or nothing the incumbent LEC needs or wants. The statute addresses this problem by creating an arbitration proceeding in which the new entrant may assert certain rights, including that the incumbent's prices for unbundled network elements must be "just, reasonable and nondiscriminatory."¹²² We adopt rules herein to implement these requirements of section 251(c)(3)."

- 3.41 The FCC rules set default prices for unbundled network elements and interconnection for facilities based competitors at TELRIC (TSLRIC) rates, and avoidable cost based prices for resale entry.
- 3.42 Telstra also acknowledges the benefits of resale entry as a stepping-stone to full facilities-based competition. In the New Zealand inquiry Telstra supported mandation

¹²² See 47 U.S.C. § 251(c)(3)

of local call resale with back-stop government dispute resolutions procedures in the event reasonable terms and condition could not be negotiated with the incumbent carrier:

“It is acknowledged that resale competition is both a useful phase in the move towards facilities based competition and can also be a legitimate means of competition in itself. Resale can be a value adding enterprise if the reseller is able to bring added efficiencies and add on services. As such, the facilitation of resale of some basic services should be encouraged, and some form of dispute resolution process provided for. This should allow for more efficient “build-buy” decisions to be made.”¹²³

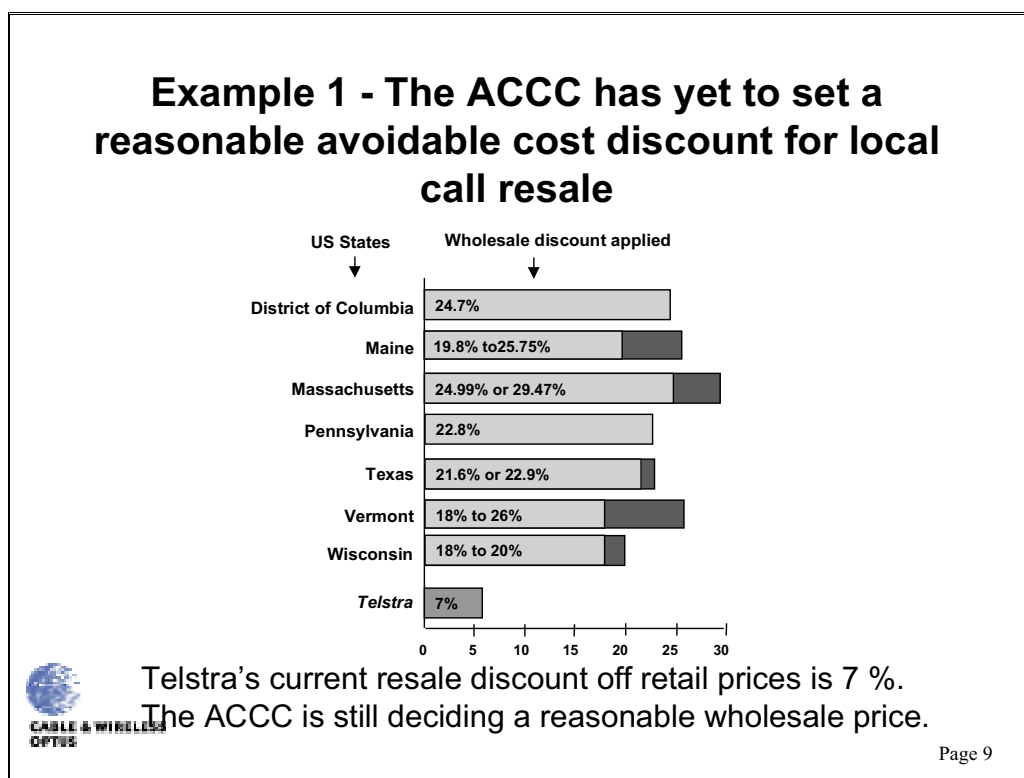
- 3.43 Whilst the ACCC has set prices for interconnection at reasonable levels, two of the important paths to full local competition are still to be appropriately regulated by the ACCC. In particular, local resale competition and access to Telstra’s unbundled local loop services on cost-oriented and reasonable terms are crucial regulatory tasks presently before the ACCC.

Local Call Resale

- 3.44 As previously discussed, Telstra has maintained its high market shares in long-distance and international telephony, in part, because competitors have not had access to a viable local call wholesale product. Telstra does not provide competitors with a local calling product at prices that permit effective competition — or that reflect costs Telstra’s avoids from not retailing local services. The following reflects the commercial discount off retail rates offered by Telstra for local calling services compared to the rates mandated by State Regulators in the United States using the FCC’s avoidable cost methodology:

¹²³ Telstra submission to the NZ inquiry at 15.

Diagram 3.4



- 3.45 Hence Telstra's competitors, when adding their own retailing costs, are required to loss-lead in the provision local calling via resale if they are to provide consumers with the one-stop shop/full telephony service. This has decreased effective competition in both local and long-distance calling.
- 3.46 In addition, as discussed in the section reviewing Part XIB and the competition notice in the commercial churn case, Telstra has erected multiple non-price barriers and unreasonable terms and conditions that make difficult the resale of Telstra's local service by competitors. For example, the lack of Operation and Support System access (OSS) means competitors cannot offer an equivalent service to Telstra in answering billing queries or provisioning new services.

Unbundled Local Loop (ULL) Services

- 3.47 Unbundled local loop (ULL) services will be a key service delivery platform for multi-media services in the convergent world using DSL technologies such as:
- (a) high speed internet access;
 - (b) data;

- (c) video streaming; and
- (d) subscription TV services.

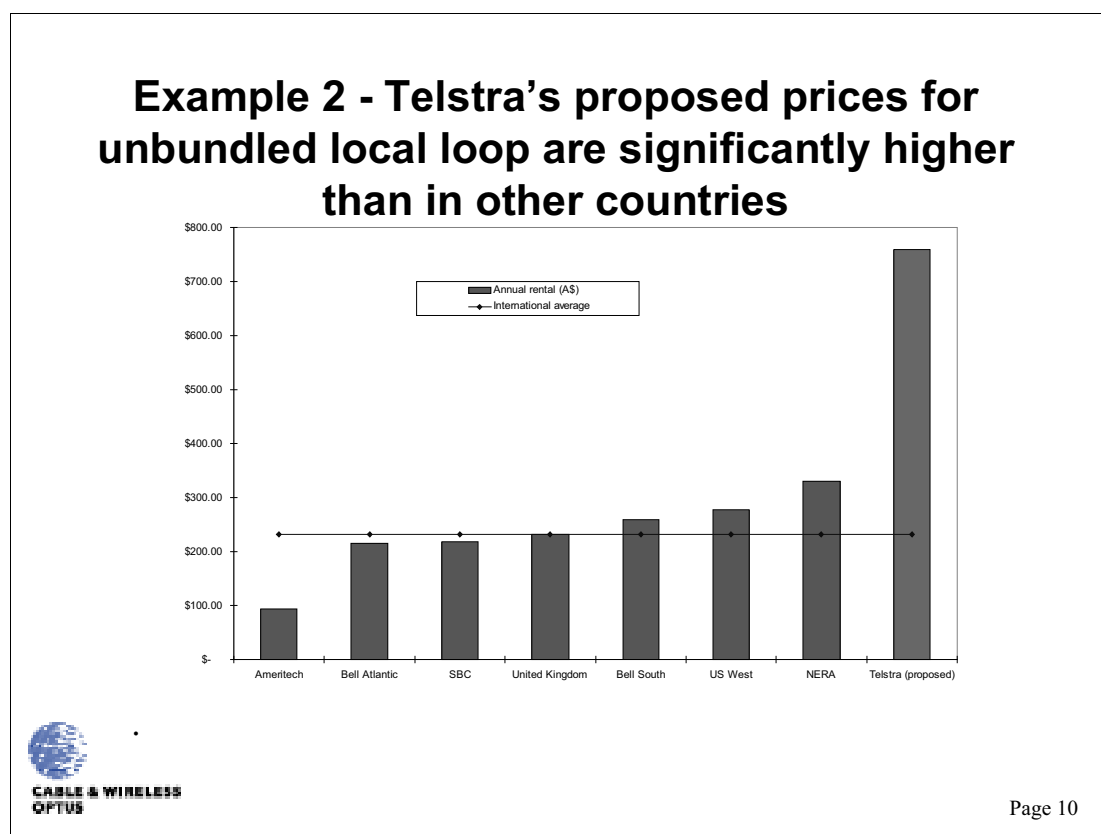
3.48 Vigorous and effective competition in downstream markets for these services will only occur if Telstra's rival gain access to the monopoly building block ULL service on reasonable and non-discriminatory terms. Otherwise Telstra, as the vertically integrated provider of both downstream multi-media services and the upstream ULL input could use its control of the ULL monopoly building block to cross-leverage dominance into these emerging markets. As discussed in the Hilmer report:

“Where the owner of the [essential] facility is also competing in markets that are dependent on access to the facility, the owner can restrict access to the facility to eliminate or reduce competition in the dependent markets.”

3.49 The present price and non-price terms and conditions for ULL proposed by Telstra are unreasonable¹²⁴. For example, the following graph shows Telstra's commercial prices compared to reasonable prices indicated by the ACCC's NERA cost model and the prices applying in other countries set by regulation:

¹²⁴ For example, Telstra propose a range of other unreasonable charges such as a \$100 set up, and fault restoration charges of between \$200 to \$500 per line per annum. It is interesting to note that according to these prices, and given Telstra has over 10 million local loops in operation, the costs of the local loop up to the remote unit are according to Telstra \$7 billion per annum. This means using, say, a 10% weighted average cost of capital the capital cost of the local loop is \$70 billion.

Diagram 3.5



3.50 Given such prices, competitors will be at a significant, and efficiency unrelated, cost disadvantage to Telstra in competing in multi-media markets — in the order of at least \$400 per annum per local loop. If Telstra supplies ULL to itself at cost, then rivals to Telstra will not be effectively able to compete.¹²⁵ And Telstra can extend its dominance into these emerging markets through discriminatory dealings in the ULL service. Hence, unless the ACCC prospectively determines fair terms and conditions for the ULL service Telstra will have large scope to extend dominance into these emerging multi-media services.

3.51 The unreasonableness of Telstra's proposed charges has been confirmed in an ACCC's draft decision of 4 August 2000, which finds Telstra proposed charges were 75 % above reasonable levels. The ACCC indicated Telstra's proposed average ULL prices should be reduced from \$63 per month to \$36 per month.¹²⁶

¹²⁵ Some of these downstream markets have significant economies of scale, thereby increasing Telstra's ability, through delaying competition, to vertically leverage and extend its monopoly into these downstream markets.

¹²⁶ See ACCC "Pricing Principles for Telstra's Local Loop Services", August 4, 2000.

Summary

- 3.52 In summary, there are still significant pro-competitive regulations of the local loop that need be implemented to enable fair and effective competition in telecommunications and new media services. The unbundled local loop will be a particularly important building block input requiring such regulation if Australia is to reap the full benefits of the information economy, and have vigorous competition in new media services.

Scope of the Access Regime and Declaration

- 3.53 The Productivity Commission's issues paper inquires into the scope of the access regime, and the differing criteria for declaration under Part XIC and Part IIIA of the Trade Practice Act:

What are the rationales for the differing criteria for declarations under Part IIIA of the TPA, compared to the telecommunications-specific provisions in XIC? Should the criteria converge, and if so, which part of the Act should be amended?

Summary

- 3.54 Cable & Wireless Optus believes the tests for declaration under Part XIC should be more closely aligned with those contained in Part IIIA, subject to the qualifications noted below. The current LTIE test has not imposed a sufficient discipline on the ACCC in deciding declarations; this has led to an inappropriate extension of the access regime to competitive markets and to services supplied by new entrants without market power. Cable & Wireless Optus proposes that the declaration criteria require the ACCC to satisfy itself that the provider of the service has a substantial degree of power in the market in which the provider is supplying the service, as a precondition to declaring the access provider(s) service.

Background

- 3.55 Under Part XIC Section 152AL (3)(d) of the Trade Practice Act, the ACCC may declare a telecommunications service if satisfied the declaration is "in the long-term interests of end-users." The objectives the ACCC is required to consider to determine whether declaration promotes the long-term interests of end-users under 152AB (2) are:

- (a) Promoting competition in markets for listed services [telecommunications services];
 - (b) achieving any-to-any connectivity; and
 - (c) encouraging the economically efficient use of and investment in infrastructure by which listed services are supplied.
- 3.56 The ACCC has attempted to balance these objectives in deciding whether or not to declare services. The ACCC has not used a natural monopoly/single supplier test in determining declarations. In addition, in some of its declarations the ACCC has not even, in practice, used a substantial market power/significant market failure test.¹²⁷
- 3.57 Declaration Under Part IIIA of the Trade Practices Act is performed by a different statutory body, the National Competition Council (**NCC**). The economic criteria on which the NCC must satisfy itself before it can declare a service under Part IIIA are set out in s44H:
- (a) that access would promote competition in a market (other than for the service);
 - (b) that it would be uneconomical for anyone to develop another facility to provide the service;
 - (c) that the facility is of national significance having regard to its size, importance for trade and commerce and to the national economy; and
 - (d) that access to the service would not be against the public interest.
- 3.58 The NCC has, in practice, interpreted the Part IIIA declaration provision in relation to uneconomical duplication as requiring the facility to satisfy a natural monopoly test.¹²⁸
- 3.59 In contrast, the ACCC has declared the following services where economical duplication has occurred and competition is working very effectively:

¹²⁷

See for example the ACCC decision to declare Analogue Subscription TV Services 1999.

¹²⁸

See National Access Regime (NCC, August 1996), see also RE *Specialised Container Transport (1997)* ATPR (NCC) 70-004 where the council decided on the basis of a natural monopoly test it would be uneconomical to duplicate rail lines between Sydney and Broken Hill.

- (a) mobile services (four ubiquitous national networks) and a further three networks presently either providing competition or under construction by Hutchison, One.Tel and AAPT;
- (b) inter-capital city transmission services other than Sydney-Melbourne (at least three independent sources of supply on all routes and upwards of five independent suppliers on some routes);
- (c) analogue subscription TV carriage service (there are two cable delivery systems, and satellite and microwave (MDS) in addition)¹²⁹.

3.60 It is unlikely such services would have been declared using Part IIIA criteria. It is even more remote that a competition authority could generate consumer welfare gains from extending access regimes into competitive market structures, such as those mentioned above. Declaration is a powerful and intrusive regulatory instrument that should only be used in cases of significant market failure. As discussed in the Hilmer Report¹³⁰:

“As a general rule, the law imposes no duty on one firm to do business with another. The efficient operation of a market relies on the general freedom of an owner of property and or supplier of services to choose when and with whom to conduct business dealings and on what terms and conditions. This is an important and fundamental principle based on notions of private property and freedom to contract, and not one to be disturbed lightly.”

3.61 The Part IIIA declaration criteria attempt to narrow the scope of the “declared” services regime to monopoly building block inputs. In contrast, the Part XIC LTIE declaration criteria have not been interpreted as restrictively by the ACCC. Cable & Wireless Optus believes this has led the Australian Competition and Consumer Commission to significantly err on two accounts in its declaration decisions:

¹²⁹ In relation to this declaration decision in 1999 the ACCC suggested it used a substantial market power test. (See ACCC “Declaration of subscription Television Broadcast Carriage Service” Final Report, August 1999. However, it is difficult to see how either of the broadband networks could satisfy a substantial market power test since they are competing for both viewers and content, and are yet to demonstrate above normal profitability. Indeed, Telstra’s broadband roll-out suffered \$billion losses in defense of its telephony monopoly. For example, see “Three may be a crowd” The Australian Thursday 27 April where it is stated that Telstra is yet to recover any of its \$3 billion broadband cable investment and is only approaching break-even in meeting operational expenses at the 700,000 subscriber level.

¹³⁰ Hilmer report at 242

- (a) it has extended the reach of the access regime to effectively competitive markets (for example mobile services, cable TV carriage , and inter-capital city transmission); and
- (b) it has declared the services supplied by new entrants in markets not subject to effective competition — and where the new entrant does not have market power (for example new entrants local telephony distribution networks are subject to declaration and for the supply of local carriage resale services)¹³¹.

While Cable and Wireless Optus considers that the criteria (or declaration under Part XIC should move towards those contained in s44G, Cable and Wireless Optus considers that the process for declaration under Part IIIA is inappropriate for the telecommunications industry. The declaration process under Part IIIA is far too cumbersome for an industry which is undergoing rapid technological change. For example, under Part IIIA a request to the NCC is required to initiate the declaration process. Following its consideration, the NCC then can make a recommendation to the Minister that the service should be declared. The Minister is then required to undergo a similar examination before deciding whether to declare the service or not.

Declaring services in Competitive Markets?

3.62 The ACCC declaration of services supplied in competitive markets is now discussed.

Inter-capital city transmission

3.63 The ACCC declared inter-capital city transmission services in October 1998¹³². This occurred notwithstanding that, at the time, there were at least two independent sources of supply on all routes and planned further entry on other routes. In addition, prices had been rapidly falling and capacity dramatically increasing through 1997-98. Indeed, all the indicia of a fully competitive market were present, yet this did not prevent ACCC declaration.¹³³ At the time the ACCC suggested it would use a cost

¹³¹ For example, under the ACCC's Local Carriage Services Declaration the ACCC declared both the Telstra network **and** the Cable & Wireless Optus network. This is even though, at the time in 1999, Cable & Wireless Optus had less than 3 per cent market share in direct connections and local telephony and had no market power.

¹³² See "Competition in data markets", ACCC final report October 1998.

¹³³ The rationale for the declaration was one of many theories on oligopoly, the particular theory reliant on collusion. The theory was both inconsistent with the observed empirical data, and, ex-poste shown to have no basis. For example, the apparent 'theory' predicted Optus would not compete against Telstra in inter-capital city transmission due to fear of retaliation by Telstra in other markets. Yet Optus has sold inter-capital city transmission too Power.Tel, Primus and AAPT, supplying AAPT with their anticipated needs for a 20 year period.

orientated methodology when arbitrating disputes on the price of inter-capital city transmission services.

- 3.64 Between March 1998 and June 1999, without any regulatory interference, prices fell between 30 % and 60 % for transmission capacity between capital cities. Presently there are at least three independent sources of competitive supply on all routes and considerable new facilities-based entry planned on most inter-capital city routes. The ACCC has not arbitrated any disputes about inter-capital city transmission and has now launched an inquiry into revocation of its superfluous declaration. Indeed, if the ACCC had set a 'regulated' price in 1999 it is likely such a price would have been above dynamic competitive market levels and hindered the performance of the market. If the ACCC was required to arbitrate an access dispute it would be unable to set prices superior to those generated from the market.¹³⁴ At best, the ACCC 1998 declaration has been unnecessary and, at worst, it has decreased investment and raised long-run prices to consumers and lowered welfare.

Broadband subscription TV carriage services

- 3.65 The ACCC declared analogue broadband cable TV carriage in 1999; the ACCC suggested it had used a substantial market power test (See ACCC "Declaration of subscription Television Broadcast Carriage Service" Final Report, August 1999). However, it is difficult to see how either of the Telstra/Optus broadband networks could satisfy a substantial market power test since they are competing for both viewers and content, and are yet to demonstrate above normal profitability.¹³⁵ The ACCC approach is in direct contrast to the Federal Communications Commission which has not regulated any broadband cable for fear of deterring investment.¹³⁶ The ACCC decision is also in contrast to the United Kingdom and the European Union none of which have declared open access to broadband cable systems for the provision of subscription TV services.¹³⁷

¹³⁴ This is because the market has generated a complex set of two-part tariffs, long-term capacity deals, volume/time discounting and other features the efficiency properties of which regulation could not even attempt to replicate — no matter how well-intending.

¹³⁵ In Australia the coverage of the broadband cable network roll-outs is approximately 40 % of residential homes.

¹³⁶ The Australian Broadband investments do not cover Adelaide, Perth or Brisbane. It is not apparent, given the less than ubiquitous roll-out, why the Commission was not more concerned with investment and roll-out incentives in choosing to declare the networks.

¹³⁷ Foreign regulators have been especially conscious of not undermining new entrant incentives to undertake broadband roll-outs recognizing the business case for such investments is often marginal, and that such investment will provide important information economy benefits into the future. However, the foreign governments have generally legally prevented the incumbent telephony monopolist from owning or rolling out cable TV services (the UK and US approach) — to prevent a single monopolist dominating both markets. This may have been a more sensible approach for

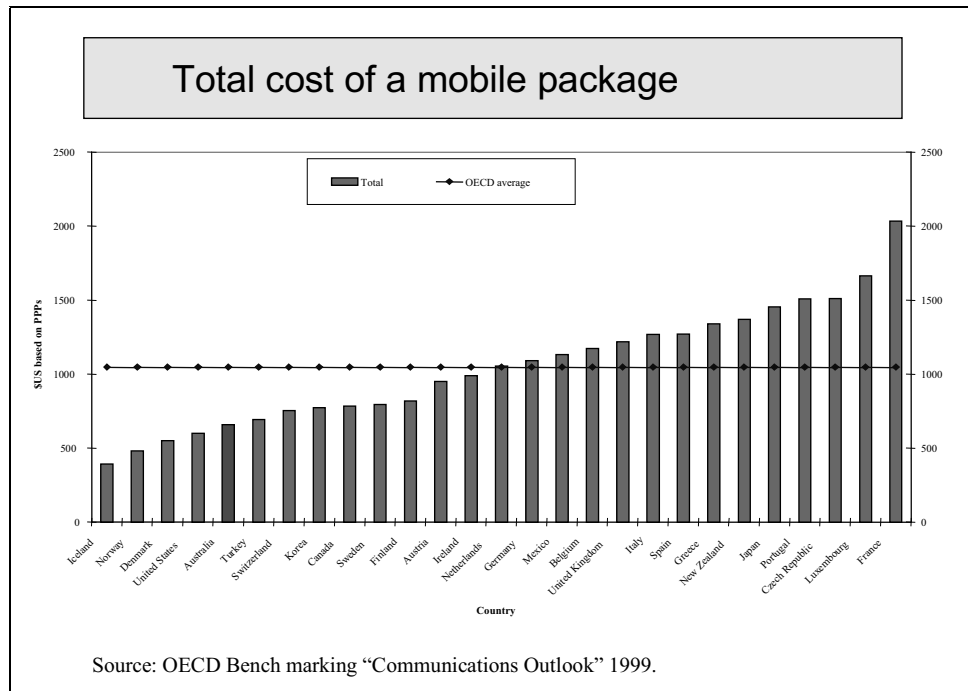
Mobile services

- 3.66 The ACCC declared GSM and AMPS mobile originating and terminating services under the transitional provisions of the Telecommunications Act in 1997. The decision was made in contrast to the position in the United States — where all price regulation of mobile services was removed by the FCC in 1994. And this declaration has remained in force from 1997 notwithstanding the following:
- (a) there are four nationwide ubiquitous competitive networks (Telstra, Optus and Vodafone GSM networks and Telstra CDMA network);
 - (b) there are a further three networks presently under construction (One.Tel GSM 1800 network, Hutchison CDMA and GSM networks and an AAPT CDMA network);
 - (c) mobile network operators have achieved both interconnection and unfettered commercially negotiated pricing without re-course to ACCC arbitration; 138 since July 1996 mobile interconnection prices have decreased 30 % in real terms via unfettered voluntary commercial negotiation; and
 - (d) Australia is amongst the most highly penetrated and lowest priced countries in the world for mobile services.
- 3.67 The following benchmarking demonstrates this final point. The OECD ranked Telstra 5th out of 24 countries for the total package price of residential mobile services in 1999 as shown in the following graph from Communications Outlook:

Australia to follow rather than the current situation of two cable roll-outs covering the same 40 % of the population and limited broadband infrastructure elsewhere.

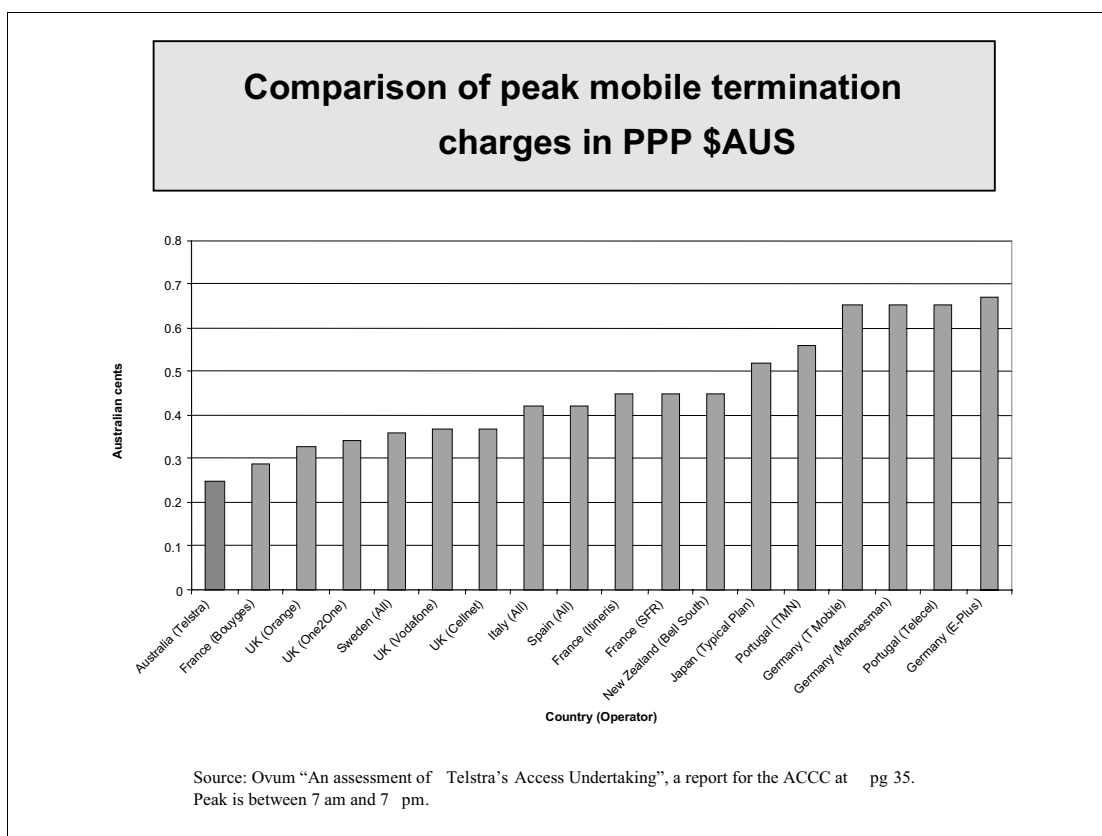
- 138 Telstra did notify an arbitration against Vodafone on mobile services in 1998 which was subsequently withdrawn by Telstra before the ACCC was required to make any decisions. Other than this, there has been no notifications of access disputes between mobile operators, indicating the mobile declaration is redundant.

Diagram 3.6



Benchmarking by Ovum in 1998 demonstrated the price of mobile interconnection in Australia was the lowest of the comparison OECD countries.

Diagram 3.7



3.68 Australia had achieved 45 % penetration of mobile services as at July 2000, placing us amongst the most highly penetrated countries in the world. More recent benchmarking indicates the gains in consumer surplus in financial year 1999-2000 alone from increased penetration, higher quality and lower pricing is over \$2 billion per annum.

3.69 Notwithstanding the above performance, the ACCC is yet to announce an inquiry into whether the mobile declaration should be revoked. This is in contrast to the New Zealand "Ministerial Inquiry into Telecommunications" Draft report, June 2000. This report, whilst recommending various incumbent controlled fixed line services be immediately 'declared',¹³⁹ such as interconnection and wholesaling of Telecom's local loop, recommended mobile interconnection for fixed to mobile calls not be declared.

3.70 Nevertheless, this ACCC declaration is having real and welfare lowering effects. Various resellers of the fixed to mobile call case have notified arbitrations to the

¹³⁹ The inquiry used the term "designation" which would be broadly equivalent to declaration in the Australian regime.

ACCC in 1999 concerning mobile interconnection prices. The ACCC has been placed in a dilemma because it is unable to improve on the performance of the competitive mobile market in terms of pricing,¹⁴⁰ yet because mobile services have been unnecessarily declared, the ACCC is required legally required to determine prices under the Part XIC arbitration procedures.

- 3.71 The mobile carriers and resellers have sought expeditious resolution of the disputes notified in July 1999. The ACCC's original timetable proposed the release of draft pricing principles in August 1999. After the release of various academic discussion papers, a roundtable conference, and multiple rounds of submission making, the ACCC is still yet to release draft pricing principles. This uncertainty is increasing facilities based competitors' cost of capital and lowering mobile network investment. This is because the expected returns on mobile network investment are decreased — whilst uncertainty remains over whether the six mobile operators have the freedom to commercially determine their own prices for their mobile products in the market.

Any-to-any does not need regulation in de-concentrated markets

- 3.72 It may be thought a rationale for the continuing declaration of mobile networks' originating and terminating interconnection is to achieve any-to-any connectivity between networks. This is not correct. Where market structures are de-concentrated such as mobiles, there are powerful and mutually re-enforcing incentives all operators have to achieve any-to-any connectivity via unfettered commercial negotiation. For example, if Vodafone refused to interconnect its subscriber base with Optus this would harm both Optus and Vodafone mobile subscribers. The CDMA mobile networks of Hutchison, Telstra and AAPT in Australia have never been declared, yet there is no evidence of problems in achieving any-to-any connectivity with the CDMA networks via unfettered commercial negotiation. Hence mutual self-interest

¹⁴⁰ For example, The New Zealand "Ministerial Inquiry into Telecommunications" Draft Report, June 2000 found at pg 43 that fixed to mobile calling should not be a "designated" (Declared) service. The reasons for this included:

- If the regulator was to undertake cost modeling, "the difficulty a regulator would have in apportioning the fixed costs of a mobile network among the services provided by that network. This difficulty would also apply to forward-looking cost based models"; and
- "The inquiry acknowledges the existing mobile service providers' submissions that they are acting in a competitive manner, incentivised by the economics of building market share."
For a further explanation on why regulators are unable to improve on the price terms of mobile interconnection see for example:
- "Declaration of Professor Jerry Hausman to the ACCC on the pricing of mobile services" February 2000;
- "Regulation of Fixed to Mobile Call Charges", Affidavit of Dr Graeme Woodbridge to the ACCC, February 2000;
- "Competition and Termination in Cellular Networks" by Dr Julian Wright January 2000; and
- Cable & Wireless Optus submission to the ACCC on Mobile Pricing February 2000.

ensures any-to-any connectivity is achieved without need for government regulation where the market is de-concentrated.¹⁴¹ The internet provides a good example of large networks achieving any-to-any connectivity via normal commercial forces without any regulation. Further discussion of this point occurs in the chapter on regulatory design

- 3.73 The continuation of the mobile declaration is having real and detrimental effects to consumer welfare.

Summary

- 3.74 The ACCC has declared competitively supplied services. This has served no useful purpose, created needless uncertainty and regulatory costs, and lowered investment. Consumer welfare has been decreased by the inappropriate extension of the access regime to these competitive markets.

Declaring new entrant networks?

- 3.75 The ACCC's declaration decisions have included Telstra's network where it has substantial market power, and have also been inappropriately extended to new entrant networks where there is no market power. For example, under the ACCC's Local Call Resale (LCR) declaration, Cable & Wireless Optus and all other carriers rolling-out facilities are required to supply LCR services to competitors. This is notwithstanding Cable & Wireless Optus has less than 5% market share and no market power. Indeed, under the ACCC's proposed regulations Cable & Wireless Optus may even be required to supply wholesale services at lower prices than Telstra.
- 3.76 This ACCC position is in contrast to the approach in the United States and European Union. The FCC would only require the Competitive Local Exchange Carrier

¹⁴¹ Any to any needs to be regulated where a supplier has substantial market power, such as in the fixed line market where Telstra has over 95% of direct connections. In the fixed line market, as discussed in chapter one, control over most of the subscriber base affords Telstra significant market power over the terms of interconnect. However, where markets are de-concentrated and no one supplier has significant market power or a high market share, any to any connectivity is likely to be successfully commercially negotiated without the need for regulation. Mobiles is a good example of this in Australia.

Once the mobile networks are interconnected, due to normal commercial forces, each mobile network becomes an independent source of supply of ubiquitous interconnection for the fixed networks via refile. Refile is a process where if carrier A seeks interconnection with Carrier B, if Carrier B offers poor terms and conditions, carrier A could refile traffic through carrier C who has may have a good interconnection agreement with carrier B. That is, if say Vodafone refused to interconnect with Telstra's fixed network, Telstra could refile traffic through Optus' interconnect agreement with Vodafone. Therefore, given mobile to mobile interconnection amongst several networks, there are multiple independent sources of supply of interconnection to each and every mobile network via refile – hence a non need for regulation of any mobile network.

(CLEC) to provide resale services under circumstances where it had displaced the incumbent telephony operator as the dominant provider of local connections. Likewise the EU does not impose obligations on the competitive carrier unless they enjoy a position of significant market power, which, in practice requires at least 40 % market share.

- 3.77 The ACCC declarations of new entrant services have resulted in several arbitrations between new entrants without market power. There is no point to these arbitrations. The issues are not of competitive significance or importance. This has needlessly tied up regulatory and new entrant resources examining non-substantive issues. For example, in one dispute, the ACCC arbitrated over a total sum in dispute between the carriers of \$12 per month! Notwithstanding the competitive triviality of the issue, the ACCC held a 3 hour hearing on the matter, and issued multiple papers requesting detailed submissions from the parties and large amounts of information.¹⁴²
- 3.78 Concerning the ACCC's error in extending the Access Regime to services supplied by new entrants, Professor Jerry Hausman has delivered the following expert testimony in an affidavit to the ACCC¹⁴³:

"No economic reason exists to regulate the new entrant since it cannot have bottleneck pricing power, and the costs of regulation will decrease new investment and innovation by the new entrant. The result of regulation of the new entrant will be less competition, less innovation, and harm to consumers.

...

This fundamental economic point has long been recognized in the U.S. Neither the FCC nor any of the 51 state regulatory commissions, to the best of my knowledge, has ever regulated the access prices for a new entrant who competes with the incumbent local exchange Carriers (LECs). Nor has any other country, so far as I know, decided to regulate the access prices for a new entrant

While the FCC recently decided to use long run incremental cost pricing principles for the incumbent LECs, it did not impose these same principles on new entrant who will provide local competition. Indeed, no incumbent LEC called for regulation of new entrants. This result arises because no new entrant controls a bottleneck facility, since an end user can always switch to an incumbent LEC if the new entrant attempts to charge too high prices. So

¹⁴² The dispute was resolved without recourse to the ACCC.

¹⁴³ Affidavit of Dr Jerry Hausman "Access Pricing Principles – Telecommunications", 1997, paragraphs 5, 13-15.

long as end users have a choice of carriers, no bottleneck pricing power can exist.”

As discussed by the FCC in its Interconnect Order:

“We conclude that allowing States to impose on non-incumbent LEC’s obligations that the 1996 Act designates as “additional obligations on incumbent Local Exchange Carriers” distinct from obligations on all LEC’s would be inconsistent with the statute. We further anticipate that we will not impose incumbent LEC obligations on non-incumbent LEC’s absent a clear and convincing showing that the LEC’s occupy a position in the telephone exchange market comparable to the position held by an incumbent LEC, has substantially replaced an incumbent LEC, and that such treatment would serve the public interest, convenience and necessity and the purposes of Section 251.”

Summary

- 3.79 Cable & Wireless Optus believes the Part IIIA and Part XIC criteria should converge. The ACCC has inappropriately extended declarations into competitive services and to services supplied by new entrants that **do not** possess market power (often with less than 2% market share). This stems, in part, from the lack of legislative discipline imposed on the ACCC under the Part XIC declaration tests — where the Commission is merely required to satisfy itself that declaration is in the “long-term interests of end-users” (LTIE).¹⁴⁴ The specific reform Cable & Wireless Optus considers appropriate is that the ACCC should not be able to declare a service unless it is satisfied the supplier of the service has a substantial degree of power in the market in which it is supplying the service. This would better align the Part IIIA and XIC criteria and ensure the telecommunications access regime, and government price setting powers, are not inappropriately extended to competitive markets and new entrant services.
- 3.80 Declaration is a very powerful legislative instrument. It enables the government to set the terms of supply of services. It is well understood by economists that markets perform the price discovery/price setting role better than benevolent social planners do¹⁴⁵ — unless the market is subject to significant competitive failure. In particular the desirable functions of markets subject to effective competition include:

¹⁴⁴ For example if the ACCC has the belief it can set superior access prices in competitive markets than the market can itself, the ACCC can declare a service under the LTIE — as for example the ACCC decided to do in declaring an Inter-capital City Transmission services.

¹⁴⁵ See, for example, F Hayek “The use of knowledge in Society” American Economic Review 1945.

- (a) enabling services to be allocated to their highest valued users;
- (b) firms producing services at least cost; and
- (c) investment capital is correctly motivated through time to seek welfare maximizing opportunities.

3.81 Hence the reach of access regimes should only extend to where there is significant market failure, which in practice, arises when there is a dominant supplier of the service in issue. This has not occurred under the Part XIC telecommunications access regime. The ACCC has declared services where markets are performing well. This is, in part, because of the lack of economic discipline attached to the Part XIC declaration test.

Answers to PC questions

Further answers to Productivity Commission Part XIC questions

How are the boundaries of telecommunications markets defined when assessing whether to declare a service? Which segments (functional, technological or geographical) of the market require access regulation?

3.82 As previously discussed, the continuing area of significant market failure is the fixed line, local loop. In terms of market definitions, there are distinctive markets for local, long-distance telephony. The functional/technological section of the fixed network which requires regulation is the local loop due to:

- Natural monopoly: Economies of scale, scope, connectivity and density;
- Positive network effects;
- Barriers to entry: large fixed costs of entry, and costs of entry are sunk due to asset specificity (a new entrants fixed local loop has limited re-deployment value in the event of unsuccessful entry).
- Any to any connectivity;
- Non-duplication of the local loop.

3.83 Mobile telephony does not constrain the exercise of market power in fixed network telephony for two reasons:

- Price advantages; prices and costs of fixed network communications are world-wide between 5 to 10 times below those for mobile service. The consumer will choose the fixed phone over mobile, unless not at a fixed phone location.
- Quality advantages. The voice quality of telecommunications carried end to end over wire based networks is presently superior to cellular technology.

To what extent is it likely that technological and market developments — such as growing mobile and optical fibre networks — will reduce (or increase) the need for access declarations?

3.84 Technological change has increased the need for access regulation of the fixed local loop. For example, there is now an increased need of unbundled local loop services to be declared to allow increased downstream competition in the new economy services supplied over the local loop.

3.85 The reason for the need for increased regulation of the local loop include:

- Increased economies of scope and market power in the local loop due to the emergence of the internet, data, and DSL technologies. The principal delivery mechanism for these service is the fixed local loop.
- Technological change has increased the costs of duplication of the fixed local loop. This is because the costs of trenching and other civil works are increasing through time; and the costs of obtaining the necessary environmental approvals has also risen.

What is the process for ‘undeclaring’ services and is it adequate?

3.86 The ACCC processes for “undeclaring” services has yet to be properly empirically tested. However, given the lack of initiative of the ACCC to revoke the declaration of mobiles services and analogue subscription TV services, it is clear the level of discretion afforded the ACCC in initiating such inquiries is too high.¹⁴⁶

3.87 The present declaration/exemption process is an unnecessary hindrance on competitive entry and efficiency — due, in part, to the manner in which this has been

¹⁴⁶ The problem would not have arisen if these services had not been declared.

interpreted by the ACCC. The ACCC's present approach is to "declare" all providers of a service whether they have market power or not; and to suggest that those entrants who do not have market power should apply for an exemption to the declaration. This is both costly and unnecessary extension of regulation. It lowers consumer welfare.

- 3.88 New entrant services where there is no market power should never have been declared in the first place. This is the standard approach Internationally where, according to European and FCC Telecommunications Regulations, only those providers with significant market power are subject to the equivalent of "declaration".
- 3.89 In practice the Part XIC exemption process has failed; it has not been used due to the intrusive and often superfluous nature of the process.

What are the main benefits and costs of access regulations (including any assessment of their dollar values)?

Fixed line regulation

- 3.90 The static consumer welfare benefit associated with interconnection access regulation is \$1.8 billion per annum. Other benefits associated with the defusion of economic power, and dynamic efficiencies associated with the unlocking of competitive market structures have not been included in this measure.
- 3.91 In particular, competition is also preferable to monopoly because of the powerful dynamic forces that are set in motion by the incentive and reward structure associated with competitive markets. In real world competitive markets, new entrants must offer customers something of value to entice them to shift their patronage from the incumbent. The incumbent supplier, in turn, must similarly offer something of value to entice them to stay. As a result, customers benefit from the growth in inter-firm rivalry that accompanies the evolution of competition. Moreover, with competition, the gains reaped by consumers can be shown to exceed the losses realized by the former monopolist.

Mobile access regulation

- 3.92 Cable & Wireless Optus has provided detailed analysis on the welfare costs if access pricing regulation of mobile services was to occur. This welfare cost to consumers is between \$800 million and \$2 billion per annum.

See for example:

- “Cable & Wireless Optus submission to the ACCC on appropriate pricing principles for GSM originating and terminating access” February 2000.
- “Declaration of Professor Jerry Hausman to the ACCC on the pricing of mobile services” February 2000;
- “Regulation of Fixed to Mobile Call Charges”, Affidavit of Dr Graeme Woodbridge to the ACCC, February 2000;
- “Competition and Termination in Cellular Networks” by Dr Julian Wright, January 2000.

The ACCC is yet to decide whether it will price regulate mobile services.

What impacts are the current arrangements having on the industry?

- 3.93 Regulation of fixed local loop services has increased investment, competition and consumer welfare.
- 3.94 Declaration of new entrant and competitively supplied services has decreased economically efficient investment and the operations of markets, to the detriment of consumer welfare.

Have the 1999 changes to the legislation been effective?

- 3.95 The interim determination power has been a useful addition to the 1999 amendments to the legislation. This has enabled the ACCC to make ‘interim’ decisions in arbitrations. However, the ACCC has not used this power as effectively as it might have because it has only handed down interim determinations too late in the arbitration process.

Are any additional amendments warranted, and if so, what form should they take?

- 3.96 Cable & Wireless Optus supports a narrower focus in the declaration test on the determination of significant market power/market failure. Only services supplied by provider(s) with significant market power should be subject to declaration. As previously discussed, services have been declared where there is:
- competitive supply (inter-capital city transmission, mobiles);

- no market power (broadband subscription TV carriage, and new entrant services); and
- No market failure (mobiles, inter capital city transmission).

This has created unnecessary regulatory costs.

What pricing models are appropriate for examining access pricing?

3.97 Long-run incremental cost models, in line with world's best practice, are appropriate setting interconnection prices for the fixed local loop. The theoretical foundations for such an approach are provided, among other documents, in:

- “the Affidavit of Professors William Baumol, Janusz Ordover, and Robert Willig to the FCC, April 1996.
- The Federal Communications Commission's First Report and Order 1996, see especially Chapter 7 (paragraphs 618 to 851); and
- ACCC “Access Pricing Principles” Telecommunications, July 1997.

Does the ACCC use the right conceptual approach when examining pricing issues?

3.98 The ACCC has adopted a reasonable methodology to the calculation of interconnection prices to the fixed local loop.

3.99 The ACCC is yet to decide whether it will price regulate services supplied in competitive markets. If they were to price regulate such services this would be an economic mistake decreasing consumer welfare. However, the main error has resulted from the inappropriate extension of the access regime to declaring services subject to competitive supply, and where there is no market failure.

How can forward looking costs be appropriately calculated?

3.100 Forward-looking costs can be estimated using several methods including:

- Bottom-up cost modelling of an efficient network design;
- Top-down analysis of historical regulatory accounting;

- International benchmarking against the costs of comparable services in Overseas Jurisdictions.

3.101 Such price setting needs be performed by a regulator in the absence of a competitive market for fixed line interconnection services.

How confident can the ACCC be about the accuracy and applicability of cost estimates underlying any pricing model?

3.102 The ACCC has been costing interconnection for nearly three years using a range of methods discussed above. The Commission can be confident its own price setting of fixed line interconnection significantly increases consumer welfare versus not setting –pro-competitive interconnection charges..

How is uncertainty over costs best resolved? How should overhead costs that are common to all services be included in access prices?

3.103 The ACCC has erred in its calculation of the recovery of common costs associated with Telstra’s fixed network. Recovery of such costs is a pricing issue, not a cost allocation issue. That is, when setting the prices for a service using a common network element, prices of all services supplied by that element need satisfy two rules: The contribution to common costs of the all services using the network element must not exceed the stand alone cost of the network element; and the price of the service must not be less than its incremental cost of supply.

3.104 The ACCC has, in contrast, when deciding interconnection prices, allocated the entire cost of Telstra’s trench network to standard voice telephony services. This means competitors pay for the same set of Telstra’s trenches multiple times over — through the other services supplied by Telstra using these same trenches. For example, competitors again pay for these same Telstra trenches when using Telstra’s ISDN products; and competitors will again pay for these same trenches when purchasing unbundled local loop services from Telstra.

3.105 The current approach necessarily leads to over-recovery of Telstra’s local loop costs: The local loop cost is recovered in entirety from standard voice telephony services under the ACCC’s current approach to cost allocation. The local loop is then over-recovered through the supply of other services such as unbundled local loop and ISDN.

What access pricing models are used by overseas regulators and what have been their advantages and disadvantages?

- 3.106 Overseas regulators have used LRIC/TSLRIC models to set the price of interconnection to the incumbent's fixed local loop, and for unbundled local loop services. This methodology is used by the Federal Communications Commission, The European Union, and in the United Kingdom. These models are based on the concepts of recovery of forward-looking long run efficient operator costs. The ACCC has used the same model. Competition authorities world-wide regulate the incumbent's retail local service offerings using an avoidable cost methodology.
- 3.107 International regulators have **not** price regulated other Telecommunications services or new entrant services, and have not subjected such services to the equivalent of "declaration". The ACCC is still deciding these issues and has erred in extending the access regime to these services.

To what extent could existing access pricing approaches lead to over or under-investment in infrastructure or to inefficient entry?

- 3.108 As previously discussed, the ACCC's current approach to costing Telstra's fixed network leads to over-recovery of Telstra's network. This is because the ACCC, in setting the costs of interconnection, cost a stand-alone network for voice telephony. Telstra recovers (over-recovers) this same set of costs through other products that use this same network (ISDN and unbundled local loop). In this manner Telstra's scope economies in the provision of local loop services allow Telstra to over-recover its network.

4. Part XIB –Competition Notices and Record Keeping Rules

Issues Paper Questions on Competition Notices

This chapter addresses the following questions raised in the Issues Paper:

- *Why should there be a 'second route' for averting anti-competitive behaviour specific to the telecommunications industry under the TPA?*
- *What has been the impact of these provisions, including their potential deterrence of anti-competitive behaviour?*
- *Do the provisions have adverse or positive effects on investment in infrastructure?*
- *Are competition notices an appropriate mechanism for industry action? Are the criteria used for deciding whether to initiate a competition notice appropriate?*
- *Have Part A notices resulted in a speedier process for dealing with anti-competitive conduct? Are any additional amendments warranted, and if so, what form should they take?*
- *There have been few competitive notices issued - how is this to be interpreted?*
- *Are there other important differences between Part IV and Part XIB and what impact do these differences have?*
- *Are there any legal or constitutional barriers to developing the most appropriate system of competition regulation in the telecommunications industry?*

Key Points on Competition Notices

- Telecommunications-specific conduct rules are required **in addition to Part IV** to effectively address the special features of the industry, the continuing high levels of market power, the significant opportunities for anti-competitive conduct by the incumbent and the rapid pace at which market conditions can deteriorate in the face of anti-competitive conduct. The new understanding of network effects, tipping and path dependency in technology based networked industries reinforces the need for stronger, expedited regulatory measures than exist in other industrial sectors which do not exhibit these characteristics to the same extent;

- Telecommunications -specific conduct rules are required **in addition to Part XIC** because:
 - there can be no guarantee that access regulation will "perfectly" control or eliminate vertical leverage, and conduct regulation in downstream retail markets may be necessary as a "backstop" measure to ensure residual market power is not exercised to the detriment of competition and consumers;
 - access regulation necessarily involves a more extended decision making process, such as the declaration inquiries, and conduct regulation is required to ensure that market power over wholesale inputs is not misused pending the outcome of access inquiries; and
 - control of wholesale inputs is not necessarily the sole source of an incumbent's market power.
- Part XIB currently places too much reliance on action by the ACCC. Standing to commence proceedings for damages for breach of the Competition Rule should be extended to private litigants, rather than relying solely on a Part A competition notice.
- The current drafting of Part XIB favours defendants due to the requirement for the plaintiff to demonstrate that the defendant "took advantage" of its market power.

The need for Part XIB in Additional to Part IV

- 4.1 In the second reading speech for the bill which introduced Part XIB into the TPA, the Minister stated that:

"Total reliance on Part IV of the TPA to constrain anti-competitive conduct might, in some cases, prove ineffective given the still developing state of competition in the telecommunications industry. The fast pace of change and complex nature of horizontal and vertical arrangements of firms operating in this industry mean that any anti-competitive behaviour could cause rapid damage to competition that has already developed and severely hamper new entry."

- 4.2 Thus the Minister identifies three critical features of the telecommunications industry which justify sector-specific regulation of anti-competitive conduct:

- (a) the still developing state of competition;

- (b) the rapid pace of change; and
- (c) the complex nature of horizontal and vertical relationships.

4.3 Cable & Wireless Optus submits that each of these features still exists in the telecommunications industry today, and not one of these feature has moderated sufficiently to justify the removal of Part XIB, and that these conditions are likely to persist for the foreseeable future.

4.4 Telstra retains a dominant market share in almost every service:

Service	Telstra Market Share	Source
National long distance	75% (June 2000)	ACCC Final Undertaking Report
International	48% (June 2000)	ACCC Final Undertaking Report
Mobile Telephony	48%	ABN-AMRO, July 2000
Internet Access	50%	The Australian
Subscription Television	50%	Australian Financial Review
Local access	86%	Paul Budde Communications

4.5 The UK has recognised the need for continuing industry-specific conduct rules, even though the incumbent's market shares are substantially below Telstra's:

"Communications markets possess certain special characteristics, which give rise to competitive concerns for which ex ante regulation is appropriate. These include interconnection, interoperability, spectrum, numbering and call termination... "ex-ante rules and the need for compliance will be at the heart of the regulatory framework.... ex-ante regulation [is] needed for effective competition between networks and between the services that run over them... There is a continuing need for specific ex ante rules to provide a safeguard where the market fails to deliver. "147

4.6 Even if Telstra's market power declines substantially over the 2002 - 2007 timeframe, the special dynamics of the telecommunications industry suggest that, in the absence of effective regulatory safeguards, Telstra could rapidly rebuild its market power.

147 OFTEL, Communications Regulation in the UK, July 2000, <http://ofel.gov.uk/about/whit0700.htm>, page 9.

The Microsoft case demonstrates how quickly market power in technology-based industries can grow and the relatively low levels of market share at which these markets can "tip".

- 4.7 While the time may come when telecommunications-specific conduct rules do not "have a front line" role, those rules should be retained as a "backstop" to be called upon if required. Removing Part XIB from the statute books deprives the regulator of power to quickly intervene to prevent anti-competitive conduct which threatens to irreversibly "tip" a telecommunications market.

The Need for Part XIB in Addition to Part XIC

- 4.8 It is argued that if a firm is subject to an effective regulatory regime mandating access to services and facilities on economically efficient terms, then market power is stopped at its source and carriers are unable to engage in anti-competitive conduct. This, it is said, makes competitive conduct regulations unnecessary and, if imposed, inefficient. However, expertise in Australia and overseas show that access regulation cannot be a complete substitute for effective regulation of a vertically integrated incumbent's conduct in downstream markets for the reasons set out below.

Conduct Regulation is Imperative where Access Regulation is not Perfect

- 4.9 If access is not mandated in *every* circumstance in which control of facilities or services confers market power, then such control gives rise to market power and the potential for anti-competitive conduct, which ought to be addressed by conduct regulation. However, regulatory *lacunae* are inevitable in an industry as complex and as fast-changing as telecommunications. It is unrealistic to expect that a regulator will be able to ensure third party access to services or facilities always and only where control of those gives rise to market power. This means that hot-spots of market power are also inevitable. Wherever market power exists, anticompetitive conduct may be engaged in.

Conduct Regulation is Imperative where Incumbents remain Vertically Integrated

- 4.10 It will always be difficult or impossible to be confident that access regulation is "perfect" and gives rise to perfectly efficient outcomes, especially in an industry as complex and changeable as the telecommunications industry. These difficulties are compounded in the case of a regulatee that is a vertically integrated incumbent.
- 4.11 Even if it is believed that the regime of access regulation is "perfect", in the sense that it generates economically perfectly efficient outcomes, some uncertainty is likely to

remain as to whether it is operating perfectly in practice, particularly where the vertical integration of a regulated firm hampers discovery of reliable data. For example, a vertically integrated incumbent might be subject to rigorous access regulation but able nevertheless to engage in anti-competitive conduct in retail markets because it can give itself the benefit of better pricing or quality of access which is not accurately indicated by internal transfer pricing.

- 4.12 Consequently, unless structural measures are implemented, competitive conduct regulation is necessary to guard against anti-competitive behaviours sustained by residual market power within the vertically integrated incumbent.

Conduct Regulation is Imperative where Access Measures may be Delayed

- 4.13 If interconnection access to a monopoly input is not subject to declaration, anti-competitive terms of access can be dealt with expeditiously via Part XIB, whilst the inquiry into declaration occurs simultaneously. For example, Telstra offered a plethora of anti-competitive terms for the resale of local services, including a \$30 customer transfer fee. Many of these terms and conditions were dealt with effectively by the ACCC competition notice proceedings whilst the inquiry into declaration was also underway. This allowed competition to be introduced to the local services / one-stop shop market more quickly than otherwise.
- 4.14 Some delay is virtually inevitable between the identification of a service or facility as one to which access should be required and regulatory action to require provision of access to third parties. Such delays are a consequence of the necessity for the service or facility to be discovered to be suitable for mandatory access, the need for relevant data to be gathered on which to base the regulatory decision, the need for time for the regulator to consider the data and parties' inputs and the need for a period for objections or appeals to be heard. A perfect regulatory decision cannot be made instantaneously.
- 4.15 Further, some delay is virtually inevitable between the regulator's decision to mandate third party access to a service or facility and the *implementation* of that decision by the access provider and access seekers. Such delays are a consequence of the need for relevant agreements to be negotiated and concluded between the access provider and access seekers and between the access seekers and their customers and, often, the need for physical infrastructure to be built or installed to enable access seekers to take advantage of their regulatory access right.

Competition problems at the wholesale level may not involve enduring “bottleneck” issues

- 4.16 Wholesale services which are the subject of a Part XIB complaint may not necessarily involve monopoly input services which would warrant continuing regulation under Part XIC. It may be possible to deal with the competitive problem in the supply of particular wholesale services with a “once off” intervention. That may be sufficient to “unblock” market forces at wholesale and retail levels and for competition to develop its own momentum. Bringing the relevant wholesale service within Part XIC and continuing to regulate that service may be overly interventionist and could adversely impact investment incentives.
- 4.17 Internet peering is a good example. In 1998 Telstra accounted for a substantial proportion of the retail internet population, most of the Australian content, and owned the largest backbone network. Telstra’s refusal to treat competing backbone providers as “peers” threatened to undermine competition at the wholesale level in the supply of internet transport services. By issuing a competition notice, the ACCC was able to remove Telstra from its threshold refusal to treat backbone competitors as peers, and commercial arrangements then could be subsequently negotiated between each backbone competitor and Telstra. While the process for issuing the internet peering competition notice was too long, the process of a service declaration enquiry, the setting of pricing principles and individual arbitrations under Part XIC could have been much longer.
- 4.18 Further, the ACCC was able to limit its intervention to specifying the principle of “peer to peer” treatment without having to become involved in the much more complex task of determining the appropriate pricing principles and arbitrating terms and conditions. Regulation of internet peering or backbone transport services under Part XIC might also have undermined investment incentives for Telstra’s backbone competitors which were seeking peering, particularly as they also could have been regulated in the supply of these services as Part XIC does not asymmetrically impose access regulation.

Conduct Regulation is Imperative where Market Power derives from Sources Other Than ‘Bottleneck’ Control

- 4.19 The notion that an effective system of access regulation renders conduct regulation otiose would only be persuasive if the control of access to relevant services or facilities was *the sole source* of market power. In the case of the telecommunications industry, market power derives from many sources besides control of network access.

4.20 The “merger factors” under TPA s 50(3) indicate the market features conventionally regarded as giving rise to market power:

- (a) the actual and potential level of import competition in the market;
- (b) the height of barriers to entry to the market;
- (c) the level of concentration in the market;
- (d) the degree of countervailing power in the market;
- (e) the likelihood that the acquisition would result in the acquirer being able to significantly and sustainably increase prices or profit margins;
- (f) the extent to which substitutes are available in the market or are likely to be available in the market;
- (g) the dynamic characteristics of the market, including growth, innovation and product differentiation;
- (h) the likelihood that the acquisition would result in the removal from the market of a vigorous and effective competitor;
- (i) the nature and extent of vertical integration in the market.

4.21 If an entity derives market power from a source or sources other than its control of access to services or facilities, then it follows that the entity would be able to take advantage of that market power to engage in anti-competitive conduct regardless of any regulation affecting its control of access. Access regulation will be ineffective in preventing anti-competitive conduct that is sustained by market power which is independent of control of access.

The Consumer Benefits Achieved Under Part XIB

Part XIB was introduced in 1997 and has been used by the ACCC in a number of investigations with some success. There have been two key cases so far:

- (a) the first competition notices issued under Part XIB were issued in respect of Telstra's failure to conclude Internet peering agreements with other Internet Service Providers. When Telstra responded to the first notice by challenging its particulars, rather than amending its conduct, the ACCC withdrew the first

notice and issued a second containing a more detailed description of the contravention. This succeeded in forcing Telstra to speed up the conclusion of peering agreements which had been bogged down in months of unnecessary delay.

- (b) the second set of notices were issued in respect of Telstra's commercial churn service. The churn service provides the mechanism for transferring Telstra customers to competing service providers. The first churn notice alleged that the terms and conditions of the service contravened the competition rule in various respects. Telstra responded by amending some of its conduct but refused to cease the most fundamental anti-competitive aspect of its conduct. This was its practice of passing on to the new service provider liability for all unbilled Telstra charges incurred by the customer before the transfer. The ACCC therefore issued a second round of competition notices, and Federal Court proceedings which were designed to force Telstra to address this aspect of its conduct. The case eventually settled, nearly a year later, and resulted in:
- Telstra paying \$4.5 million into a compensation fund to assist other service providers to develop their technical capability to deal with churn; and
 - the accelerated launch of a cheap and fully automated customer transfer system for service providers called the "Wholesale Billing System".

4.22 The two competition notices produced tangible, immediate consumer benefits. The Internet interconnection notice, for example, resulted in almost immediate price reductions in wholesale data access, and other positive effects on competition in the Australian Internet services market:

*"This is an excellent result for the entire industry ... By forcing Telstra to sign reciprocal agreements with competing IAPs, the ACCC has opened the Internet to even greater competition ... the Commission decided on 22 June 1998 to withdraw this notice, as it had achieved the desired effect of ensuring Telstra dealt competitively with other IAPs"*¹⁴⁸

"The Australian Competition and Consumer Commission has welcomed the reduction in wholesale Internet rates recently announced by Optus ... these rate reductions are exactly what the competition notice was designed to bring

¹⁴⁸ ACCC, Media Release, 23 June 1998.

about. Our competition notice stated quite clearly that the lack of reciprocal compensation meant higher wholesale prices.

Commissioner Shogrem predicts that Optus' wholesale rate reductions will result in immediate benefits to customers. "Lower wholesale price means lower costs for Internet Service Providers, leading to rate reductions at the retail level".

The price reductions coming so soon after issuing a competition notice, are the latest tangible benefit of strong telecommunications regulation for competition and consumers."¹⁴⁹

- 4.23 The Commercial Churn Notice also produced similarly positive benefits for the competitive process and consumers of telecommunications services:

"This agreement follows an acknowledgment by Telstra that the Commercial churn service may have had an adverse effect on the competitive position of carriers seeking to transfer customers.

ACCC Acting Chairman, Mr Allan Asher, said: "The ability to transfer local call customers between competing telecommunications carriers is fundamental to effective competition, particularly in the local and long distance telephony markets".

The Acting Chairman said Telstra had recently made improvements to its customer transfer system including the development of a new wholesale billing platform that should further improve transfer times.

... Mr Asher said recent Telstra initiatives, including a new automated wholesale billing platform, had improved churn times and costs significantly ...

The ACCC is pleased that Telstra has effected the improvements to the customer transfer systems and competition in telephony markets has been enhanced.

*We are especially pleased that prices for local calls have fallen under the pressures of competition".*¹⁵⁰

¹⁴⁹ ACCC, Media Release, 8 July 1998.

¹⁵⁰ ACCC, Press Release, 23 January 2000.

Improving the Effectiveness of the Competition Rule

- 4.24 The Competition Rule is based on an **effects based test**, where anti-competitive conduct is defined by reference to the economic effect of the conduct, rather than the purpose behind it. Essentially a plaintiff has to show that the defendant:
- (a) has a substantial degree of market power in a telecommunications market;
 - (b) has taken advantage of that power; and
 - (c) the effect, or likely effect, of this “taking advantage” (together with any other acts which may not constitute a “taking advantage”) is to substantially lessen competition in a telecommunications market.
- 4.25 This test was introduced in an attempt to overcome problems with the section 46 "purpose" test. Section 46 of the TPA requires, as an additional element, that the plaintiff show that the defendant was motivated by an improper purpose, being to:
- (a) eliminate or damage a competitor;
 - (b) prevent the entry of a potential competitor; or
 - (c) prevent or deter a person from engaging in competitive conduct.
- 4.26 Anti-competitive purpose has been shown to be inherently difficult to prove. Proceedings under s 46 of the TPA are both time consuming and costly. Anti-competitive purpose can easily be concealed by a strategically created trail of documents designed to show legitimate business reasons for conduct actually engaged in for an anti-competitive purpose. It is extremely difficult for a Court to infer anti-competitive purpose from a firm's conduct in the face of such a document trail. While for this reason an effects based test is superior to a purpose based test, problems remain with the “taking advantage” element.
- 4.27 In order to prove a breach of the misuse of market power aspect of the competition rule, it is necessary to prove three things: that the carrier has substantial market power in a telecommunications market; that the carrier took advantage of that power; and that the effect or likely effect was to substantially lessen competition in a telecommunications market. Even if a plaintiff can prove substantial market power and a substantial lessening of competition, that plaintiff will still lose unless it can also prove that the carrier "took advantage" of its market power in at least part of the

relevant conduct which resulted in a substantial lessening of competition. In order to prove a "taking advantage", it is necessary to demonstrate that the carrier has done something that it would not do, or could not do, in a competitive market. Therefore the acceptability of the carrier's conduct is measured against the benchmark of what would be acceptable in a competitive market.

4.28 Complainants, and regulators, face two particular problems in applying this hypothetical market standard in a telecommunications industry:

- (a) As the telecommunications industry is evolving from a monopolised to a competitive state, it can be difficult to hypothesise about what conditions would prevail in a competitive market and how an incumbent no longer with market power would act. This exercise can be more straight forward in markets with a longer competitive history because the alleged anti-competitive conduct often has resulted in a deterioration in the existing competitive conditions. A "before/after" comparison can provide guidance in applying the hypothetical test; and
- (b) much of the conduct and interrelationships between competitors in telecommunications markets are "counter factual" to a simpler model of a competitive market. In most market models which would be relevant to other sectors of the economy, competitors operate independently from each other and individual competitors are not usually dependent on the largest participant in the market for crucial inputs in participating in downstream markets. There are few processes in other sectors which are comparable to preselection or local call resale churn processes. Therefore, it is difficult to hypothesise how those processes might be conducted in a market if it was not distorted by the incumbent's market power.

4.29 Cable & Wireless Optus considers that this threshold is too high in a developing market - particularly in a market which exhibits the economic characteristics of telecommunications markets. It enables firms to engage in a range of conduct that might be acceptable in a competitive market but which can have an anti competitive effect in a developing market.

4.30 Further, carriers with market power can frustrate the intent behind the competition rule by creating a strategic trail of documents which provide an artificial legitimate business rationale for conduct which is truly motivated by a desire to inhibit or destroy competition. By creating such evidence of a legitimate business rationale carriers make it very difficult for a court to find against that carrier, on the balance of probabilities, on the basis that the conduct was not conduct which the carrier would

have engaged in a competitive market. Additionally, the investigation problems are compounded by the marked information asymmetries that inherently favor the incumbent.

- 4.31 CWO believes that these problems could be significantly reduced if the onus of proof on the complainant and the ACCC was reversed. Under this proposal, the carrier or carriage service provider with a substantial degree of market power which engages in conduct which has the effect or likely effect of substantial lessening competition in a telecommunications market will be deemed to have breached the Competition Rule unless the carrier or carriage service provider can show that the conduct did not involve taking advantage of its market power.
- 4.32 Reversing the onus of proof is a legitimate anti-trust tool which is used in a number of overseas countries. In Ireland, for example, operators with significant market power bear the onus of demonstrating that retail tariffs and interconnection charges are set on the basis of objective criteria, and follow the principles of transparency and cost orientation.
- 4.33 The New Zealand Government has proposed amendments in its general competition law, the Competition Act, which will reverse the onus of proof when the competition regulator is the applicant.¹⁵¹ This approach will apply not only in the telecommunications industry but across the whole economy.

Issue Paper Questions on Information Disclosure

- *Are record keeping requirements an appropriate and effective form of regulation for this industry?*
- *To what extent should information be made public?*
- *Is the information made public appropriate both in scope and content?*
- *How significant is the cost of firms are being required to maintain and provide records?*
- *Is such information over and above what would be collected for commercial reasons?*
- *What sort of information should be required to be kept?*

¹⁵¹ See Ministry of Economic Development, "Commerce act Strengthened", Media Release, 5 April 2000

- *How would this information be used to regulate the industry?*
- *Has there been significant use of these powers by the ACCC?*

Key Points on Record Keeping Rules

- record keeping rules are essential to address the information asymmetries which characterise the telecommunications industry and reinforce the incumbent's market power;
- as the result of the lack of effective cost disclosure requirements, Australia's interconnection charges have tended to be substantially above charges in other countries, although similar forward looking incremental costing principles apply;
- the absence of any requirements for disclosure of non-price information has undermined the effectiveness of the Standard Access Obligations.

4.34 Cable & Wireless Optus supports the retention of the record keeping rules, including the 1999 amendments which permit the ACCC to require disclosure of the information collected under them. The significance of information, particularly information other than cost data, probably was not fully appreciated when the Australian Telecommunications Industry was liberalised in 1991. Most of the regulatory attention was on more tangible attributes of the incumbent's market power, such as control of physical plant and services which were monopoly inputs. However, as discussed in Chapter 1, more recent anti-trust thinking has identified the critical role which information asymmetries play in creating and sustaining market power, particularly in technology-based networked industries.

4.35 The issues of information asymmetry and the need for disclosure of information are discussed at several places in this submission. Cable & Wireless Optus' views can be summarised as follows:

- (a) accounting separation requirements, as recognised by the Hilmer Inquiry, are ineffective within a vertically integrated carrier because they do not reflect the actual incentives and mode of operation of the regulated entity. Accounting separation is only effective if the internal divisions which are reporting operate as independent profit centres and deal with each other on an arm's length basis. This does not require full structural separation but can be applied within the same corporate entity as applies to BT in the UK. This approach would be consistent with the effective application of the Standard Access Obligations within the incumbents vertically integrated structure;

- (b) while Australia was amongst the world's earlier adopters of an incremental cost model, Australia's interconnection charges have been, until recently, substantially above interconnection charges in other countries which also adopt forward looking cost models, and, in some cases, even above countries which adopt historic cost models. The difficulties with the practical implementation of the forward looking cost principle in Australia reflects the inadequacy of the current cost disclosure requirements and the absence of robust theoretical models which can utilise that data. This has especially been the case with respect to local call resale where the ACCC has struggled to implement a proper application of an avoidable cost methodology to set appropriate wholesale discounts;
- (c) the incumbent should also be required to disclose information about non-price issues, and in particular its performance in relation to the Standard Access Obligations, such as the provisioning time for "internal" clients and external clients. Continuing obligations to collect and disclose this non-price information provide an effective incentive to ensure ongoing compliance without continuing intervention by the regulator;
- (d) the incumbent's cost data also should be disclosed in respect of monopoly input elements. This ensures greater transparency in the negotiation of interconnection charges which are to comply with the forward-looking cost principles. It also provides a stronger verification mechanism than relying solely on the regulator which has a limited knowledge of network architecture and costing issues; and
- (e) as record keeping rules and public disclosure requirements are intended to redress information asymmetries which relate to market power, it is not appropriate that these same requirements apply to operators which do not have market power. As the incumbent and new entrants are in very different positions, a rule which treats them on an equal legal basis will produce unequal outcomes. Overseas regulators have recognised that information disclosure requirements imposed on new entrants by incumbents can have anti-competitive effects by requiring new entrants to disclose market entry plans and future business protections to the incumbent.

4.36 In Cable & Wireless Optus' view, the tariff filing requirements have not had much practical value. However as the requirements do not apply automatically, it may be appropriate to retain these powers as an additional safeguard available to the ACCC.

4.37 Cable & Wireless Optus proposes that Part XIB should be amended in respect of the record keeping rules as follows:

- (a) the ACCC should only be able to apply record keeping rules to operators with substantial market power in respect of services to which that market power relates; and
- (b) the ACCC's discretion not to require public disclosure of information on the basis of commercial confidentiality should be removed or, alternatively, there should be a stronger presumption in favour of publication.

5. Regulatory Design and Implementation

Issue Paper Questions

This chapter addresses the following issues identified by the Productivity Commission as fundamental to the design of the regulatory regime¹⁵²:

- *How could regulation operate more effectively?*
- *Are there any unintended consequences of regulation?;*
- *Are administration processes timely, transparent and accountable?; and*
- *Are the review processes being used “strategically” by players in the industry and, if so, how should this be handled?*

Key points

- overseas telecommunications regulatory regimes are placing more reliance on forms of “incentive” regulation, which has reduced reliance on case by case decision making and dispute resolution by the regulator; and
- the main “unintended consequence” of the current regulatory regime is the risk of de facto, ubiquitous cost based regulation which arises from the failure to target access regulation on the basis of significant market power. Australia is the only comparable country not to use a significant or substantial market power as a trigger by an operator for regulated supply of wholesale services.

The adequacy of the current regulatory regime to address the competitive issues

5.1 Successive Australian telecommunications regulatory regimes have principally relied on ex post conduct rules, although with some ex ante features:

- (a) Though the government rejected the advice to rely on structural remedies in developing the 1991 legislation, some ex ante, “bright line” rules were implemented. Ministerial pricing principles required the incumbent to supply some services on the basis of its directly incurred costs. The incumbent, as predominant operator, was required to file proposed tariffs with Austel, which provided the regulator with an opportunity to determine whether the proposed

¹⁵² Box 1, Section 3.1, Issues Paper.

detailed charges breached the telecommunications specific pricing rules, such as a requirement for discounts to be generally available;

- (b) The 1997 regulatory regime represented not only a substantial shift towards ex poste/conduct rules, but also towards the generic conduct regulation of the Trade Practices Act. The general competition conduct rules were modified by establishing the “effects test” and by introducing administrative or investigatory processes by which the ACCC would determine whether the conduct rules had been breached, the competition notice provisions. The Access Regulation had more telecommunication specific features, but also was intended to be mainly applied on an ex poste basis through individual arbitrations; and
- (c) The 1999 amendments represent a shift back towards both telecommunication specific regulation and also ex ante regulation. The ACCC’s powers, particularly under the record keeping rules, would permit the ACCC to implement disclosure requirements for price and non-price information along the lines of the ex ante regulation adopted overseas¹⁵³.

5.2 These recently introduced amendments, of course, form part of the communications specific pro-competitive regulatory framework which the Commission is reviewing. Removal of this micro-economic competition law reform will place Australia in the situation where Telstra is amongst the world’s most lightly regulated vertically integrated incumbents. Australia would be going in the reverse direction to other regulatory regimes — that have continued to strengthen their ex ante safeguards over the last several years.

Figure 5.1

COMPARATIVE REGULATION OF INCUMBENTS			
<i>Requirement</i>	<i>US Telecoms</i>	<i>UK Telecoms</i>	<i>Australian Telecoms</i>
Access to unbundled network elements	✓	✓	✓
Incremental cost access to local loop	✓	✓	✓

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The ACCC has indicated that the record keeping rules could be used to require the reporting and disclosure of non-price information, such as information on the relative treatment of internal and external provisioning requests. The ACCC further indicated that requirements for electronic interfacing of Operation Support Systems might be required under a combination of the record keeping rules and the Standard Access Obligations, but that the ACCC was not inclined at this stage to require OSS Interfacing.

Electronic access to support systems	✓	✓ ¹	×
Restricted use of competitor's information	✓	✓	✓ [*]
Arms length dealing requirement between retail and wholesale business	✓	✓	✓ ²
Prior notification of system changes and agreement on common standards	✓	✓	×
Reporting on performance against non-discriminatory standards	✓	✓	× but could be ✓ ³
Regulatory Accounting	✓	✓	✓
Public disclosure of costs	✓	✓	× but could be ✓ ^{2*}

* 1999 Amendments to TPA and Telecoms Act.

1. OSS interfacing has been required by the UK regulator for the implementation of local loop unbundling in the UK. The extent of OSS interfacing initially is not as extensive as the US, but OFTEL is proposing to expand OSS interfacing requirements.
2. The Standard Access Obligations require access providers to take reasonable steps not to discriminate in supply of services to access seekers compared to themselves, but without reporting requirements to provide transparency or verification.
3. The ACCC has power to make a code about network information under the *Telecommunications Act* to arbitrate.
4. The ACCC has power under its record keeping rules to require disclosure of information provided by a carrier or carriage service provider pursuant to the record keeping rule requirements. The ACCC has not yet determined the extent of public disclosure which will be required.

5.3 'Following its review of the European Union's telecommunications regulatory regime, the European Commission published proposed directions in June 2000 which reaffirmed the importance of ex ante rules.

*"...sector-specific ex ante rules will continue to be appropriate during the transitional phase, in particular where former monopoly operations continue to benefit from inherited market power, such as in local access networks, or where firms are vertically integrated."*¹⁵⁴

5.4 Set out below are some examples of competitive problems which have occurred in the Australian industry which have not been adequately addressed by the current regulatory regime but which would not have occurred with ex ante safeguards of the type used overseas.

¹⁵⁴ EC proposal on Access and Interconnection, July 2000 at 2.

(a) Implementation of changes in network interfaces and functionality

- 5.5 As new entrants must interconnect and interoperate their networks with the incumbent's local network, the incumbent has power to establish the de facto technical and interface standards for the industry. As OFTEL has stated:

*"The commercial/competitive imperative that the small network must interconnect and operate with the much larger network means that, other things being equal, the large operator could dictate the technical characteristics which will be used to achieve interoperability between the networks. Through this, there is a risk that a technical standard for the interface between networks that is inappropriate for the wider market might be imposed, which creates extra costs or technical barriers to achieving interoperability. In extreme cases, such a large operator might try to impose a technical specification solely because it was expensive for other operators to meet."*¹⁵⁵

- 5.6 Technical innovation is an important driver of competition in telecommunications and innovators, including the incumbent, should be able to capitalise on a head start. However, if an operator has significant market power, particularly when inherited from government, its unilateral decisions on technical issues can stifle innovation by new entrants:

"The trade-off between interoperability and innovation has been a key part of [OFTEL's] analysis to identify where measures to ensure interoperability are required. The development of new services is a vital characteristic of a vibrant and competitive telecommunications industry. Sometimes, operators legitimately seek differentiation of their brand for exclusive provision of innovative services. OFTEL recognises that incentives to innovate could be inhibited if regulation of interoperability forced operators to share such services, and has therefore taken care to ensure that the rules will not impinge on them. ... Measures to ensure interoperability will only apply when normal

¹⁵⁵ OFTEL, *Statement: Guidelines on Interconnection & Interoperability: A Framework for Competing Networks*, April 1997 at 3.8. The risks of incumbent in technology markets dictating technical standards or downstream competitors also has been recently re-affirmed in the Microsoft case:

"interfaces typically play a critical role in industries subject to network effects. Challengers often seek to interconnect with a dominant network to achieve compatibility as a way of overcoming barriers to entry based on network effects. For example, interconnection has long been important to the survival of smaller firms in transportation and communications networks, from railroads to telephones to the Internet. In the software industry, Borland sought to make its quattro pro spreadsheet software compatible with the then dominant Lotus 1-2-3 spreadsheet software during the 1980s, and Microsoft made it as easy as possible for WordPerfect users to transfer their WordPerfect files and training to Microsoft Word when Microsoft was attacking WordPerfect's strong position in the market for word processing software." Shapiro C, *Declaration in US v Microsoft Corporation*, 28 April 2000 at 21.

*operation of markets is distorted by the existence of market power and interface control, and the effect of these measures will be to mimic competitive situations as closely as possible. There will therefore be no effect on incentives to innovate as they exist in competitive markets.”*¹⁵⁶

5.7 The following provides two examples of changes which Telstra made in its network interfaces which had an anti-competitive impacts on competitors’ networks:

- (a) Mobile Location Indicator or MOLI: This functionality enables calls from mobile phones to global access numbers, such as 1800, to be routed to the service location closest to the mobile cell site in which the calling customer is located. The functionality enables, for example, calls to a national cab number to be routed to the cab company in whose service area the calling mobile customer is located. The mobile network passes to the fixed network an indicator which identifies the geographic location of the base station with which the customer’s mobile phone is communicating. Without the mobile location indicator, calls to 1800/13 services can end up being routed to geographic locations which are remote from the customer, such as a cab company in a different city.

In 1994, CWO became aware that Telstra proposed to implement multi-functionality but in a manner which would not be compatible with the Optus mobile network. The result would be that calls from Optus mobile phones could not be correctly processed by Telstra Intelligent Number database services. CWO repeatedly requested Telstra not to proceed with the implementation of MOLI until the carrier could agree on a common interface standard, but Telstra refused. Optus requested intervention by the regulator, but it was reluctant to intervene in matters which it regarded as being technical and complex. Optus suffered a double disadvantage because customers perceived the inability to correctly route calls from Optus mobile phones as being a fault within the Optus network. As a result of these complaints, the ACCC required Optus to implement point of sale measures to explain to customers that Optus mobile phones did not have the functionality to work with Telstra IN services, although the problem originated with Telstra implementing MOLI in the manner which prevented the two networks interworking;

- (b) Auto Callback: This functionality allows a customer who makes a call to a busy number to request the network to automatically re-place the call once the called

¹⁵⁶ Director General of Telecommunications, *Statement: Interconnection & Interoperability of Services over Telephone Networks*, April 1998 at 10.

party hangs up. This involves the signalling between the calling party's local exchange and the called party's local exchange and on the called party hanging up, the two exchanges simultaneously call the numbers of the calling and called parties to re-establish the call.

In 1997, Optus became formally aware that Telstra proposed to introduce auto callback, but in a manner which over-rid carrier preselection or dial code selection. This meant that if a customer made a call using the Optus long distance service to a busy number and the customer invoked the auto callback facility, the call would be automatically re-placed using the Telstra long distance service. The anti-competitive impact of the auto-callback facility was exacerbated by Telstra's calling plan structure. If the customer was not already a Telstra pre-selected customer, the customer would pay the full retail price for the call made by the auto callback facility. Further, the customer who responded to an Optus television advertisement to make a call at special rates, such as a capped call rate, could end up paying the full Telstra non-discounted, uncapped rate. Telstra only relented after Optus moved to commence legal proceedings.

- 5.8 Similar problems are unlikely to occur under the US and UK regulatory regimes because the incumbent is required to give specified periods of prior notification to other operators of changes in interconnection interfaces.¹⁵⁷ The purpose of the notice period is to provide a lead time within which the incumbent and other operators can negotiate over a common or interoperable standard before the incumbent proceeds to introduce the proposed changes. If the industry is not able to reach agreement by a "drop dead" date, the incumbent is able to proceed with the proposed change unless the regulator considers the proposed change to be anti-competitive.

(b) Discriminatory ordering and provisioning

- 5.9 As access and interconnection services are a crucial input to a new entrant's own services, its ability to deliver services to its customers will directly depend on the timeliness of provisioning by the incumbent. This will particularly be the case with leased lines which are used by the new entrant as local 'tails' to connect corporate customers to its network, such as for data services.
- 5.10 It is a generally accepted regulatory principle that the incumbent to supply regulated access and interconnection services to new entrants on a basis which is non-discriminatory compared to the basis on which it supplies itself. This means that the

¹⁵⁷ The OFTEL rules were implemented following a dispute over BT seeking to introduce a version of autocollect.

relevant benchmark is not the last step in the chain of supply from the incumbent's downstream retail business to end users but rather the first step in that chain from the network business to the other business units of the incumbent.¹⁵⁸

5.11 Overseas experience also shows that these general obligations of non-discrimination may have little practical value without the following further supporting requirements:

- (a) *regular reporting of performance in internal and external supply*: the requirement for the incumbent to regularly report performance is an effective self enforcement mechanism which can reduce reliance on regulatory resources and intervention. The investigation of individual complaints when new entrants suspect discriminatory treatment can be resource intensive and intervention on an ad hoc basis will not necessarily ensure a pattern of future compliance; and
- (b) *financial incentives for compliance*: the usual enforcement powers available to a regulator, such as issuing directions or imposing fines, may not provide an effective remedy for individual breaches of non-discrimination standards. The individual instance of non-discrimination will often be long passed by the time the regulator finishes its investigation.

5.12 The Standard Access Obligations which apply under Part XIC require an access provider to take "reasonable steps" to ensure that access services are provided, including as to the timeliness of provisioning, on a basis which is equivalent to supply to itself. However, in practice, the SAO obligation has proved an ineffective discipline on Telstra for the following reasons:

- (a) Telstra is not required to regularly report on its performance against the SAOs. In the absence of systematic reporting, access seekers must assess whether there has been compliance and to make complaints about non-compliance on a case by case basis. CWO believes that Telstra does discriminate in favour of its own retail operation in the provisioning of local leased capacity, but it is difficult to collect evidence on an anecdotal basis. Individual customers often are reluctant to support a complaint, particularly if they have taken the preferential Telstra provisioning offer. However, as provisioning must be completed in days or weeks, a complaint to the regulator in an individual case is of limited benefit; and

¹⁵⁸ Bell Atlantic, one of Telecom's original shareholders, achieved a 96.43% on time delivery performance for interconnection links in January 2000. Bell Atlantic's process target delivery time for inter-exchange capacity is 15 days. See Bell Atlantic, *Intervals for Unbound Network Elements*, <www.bellatlantic.com/wholesale/html/xls/interval_une.xls>

- (b) In the absence of internal separation within Telstra, the concepts of “supply to itself” is difficult to apply in practice. Within a “seamless” vertically integrated entity, it is difficult to determine which step in the internal chain of supply is a relevant point of comparison for the purposes of the SAOs.

5.13 In the UK and the US, the incumbent is required to periodically report to the regulator and to other operators on its performance against specified benchmarks and compared to its own operations. These reporting obligations are coupled with requirements for internal demarcation between the network business and downstream retail businesses. BT’s reporting obligations on pricing require that it must:

- (a) provide separated accounts for its retail and wholesale businesses; and
- (b) these separated accounts must show, for each of BT’s services, external revenues sources as well as clear indications of internal transfer charges between its retail and wholesale business and between each service.

Regulation based on substantial market power

5.14 The 1991 regulatory regime was characterised by two primary features:

- (a) the fixed network duopoly and the mobile oligopoly; and
- (b) regulation focussed on Telstra’s substantial market power.

5.15 The 1997 regime, and its subsequent implementation by the ACCC, put Australia in the unique position of imposing symmetrical access and interconnection regulation across all operators.

Figure 5.2

Regulatory Obligation	US	UK	EU	Australia
Obligation to interconnect	All carriers	BT only	All carriers	All carriers
Interconnection at regulated access price and terms	ILEC	BT only	Only if substantial market power	All carriers

- 5.16 Professor Hausmann has commented on the absence of market power criteria in Australia's access regime as follows:

*“Regulation in telecommunication should only be used when potential market power needs to be controlled.. Regulation imposes significant costs due to decreased innovation. No economic reason exists to regulate the access prices of a new entrant because the new entrant cannot have market power. Regulating the new entrant will lead to less investment, less competition, less innovation and harm to consumers. No other country has regulated access prices of the new entrant. It would be a serious economic mistake for Australia to engage in such misguided regulation.”*¹⁵⁹

- 5.17 The European Union in its recent review of telecommunications competition regulations which should apply in the 2002-2007 period expressly reaffirmed the application of regulation based on significant market power. Further, the European Commission has proposed to narrow the potential reach of competition regulation by raising the threshold level of significant market power from a 25 percent market share to 40-50 per cent market share. Hence such regulation will be asymmetric in its practical application only covering those operator(s) with over 40 percent share of the relevant market. The Commission expressed concern that the lower existing threshold to a 25% would have a counter-productive effect of capturing a successful new entrant which had managed to grow its market share to 25 per cent.

- 5.18 As the Irish regulator has commented, regulation that is asymmetrical in its practical application is justified because of the incumbent wholesale market power:

*“In terms of encouraging market entry, I do not mean crutches for new entrants. I want them to get tough quick and stay tough. I want a regime in which they can prosper through their own effort, but nevertheless recognising that they will be facing a very powerful incumbent and that a degree of asymmetry may be required whilst the incumbent retains its power as a strong incumbent can, if so inclined, make life difficult, if not impossible, for new entrants. **The market is asymmetric and regulation has to be so as well.**”*¹⁶⁰

¹⁵⁹ Professor Hausman, Expert Statement to the ACCC, 1998.

¹⁶⁰ Etain Doyle, the new regulatory body: the ODTR, speech to the Irish Telecommunications 98 Conference, November 1998 at 7.

- 5.19 The Basic Telecommunication Agreement under the GATS¹⁶¹ which is binding on Australia, also contemplates that interconnection regulation in respect of basic services will be asymmetric. The Agreement provides that interconnection obligations apply to a “major supplier” which is defined as a supplier which has the ability to:

“materially affect the terms of participation (having regard to price and supply) in the relevant market for basic telecommunications services as a result of:

(a) control over essential facilities; or

(b) use of its position in the market.”

The interconnection obligations which apply to a major supplier include supply of interconnection services on non-discriminatory terms, supply in a timely fashion and supply at cost orientated rates.

- 5.20 Symmetrical regulation of access and interconnection has the following “perverse” consequences and effects:

- (a) *paradoxical or inconsistent regulation*: the degree of competitiveness in the relevant wholesale market is still a primary consideration in the ACCC’s decision to declare a service under Part XIC. The ACCC will often declare a service if the wholesale market is dominated by Telstra — where Telstra has market power. However, having decided to declare a wholesale service because its supply is dominated by one operator, the consequence is that the operators which do not have sufficient market presence to challenge the dominant supplier are also regulated potentially in the same manner as the dominant supplier. Consequently new entrants who seek to structurally challenge Telstra’s market power through facilities-based competition, find themselves subjected to regulatory requirements designed to curb Telstra’s market power. The application of Part XIC was justified on the basis of addressing market power but ends up applying regardless of whether or not there is market power;
- (b) *Usurping competitive markets*: as the ACCC is the designated arbitrator for all disputes over declared services, the ACCC is required to set prices in arbitrations between two non-dominant operators. There is a risk the ACCC,

¹⁶¹ See Annex to General Agreement on Trade in Services.

in discharging its arbitration function, will attempt to second-guess, and usurp, the operation of the competitive market's price discovery process.

- (c) *arbitration gridlock*: the ACCC has been inundated with arbitrations, many of which involve no issues of market power and concern issues of competitive triviality.

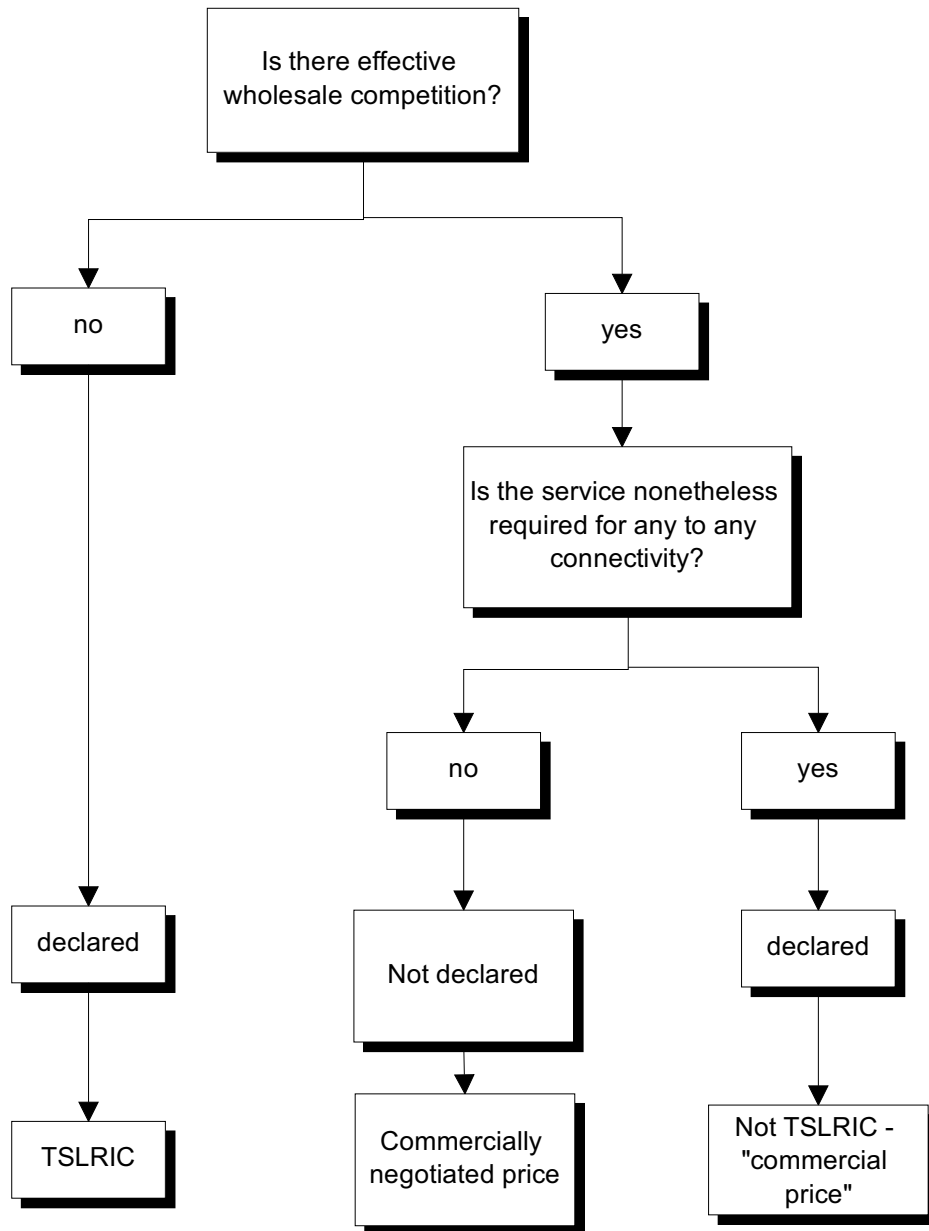
5.21 The ACCC has, to date, avoided these consequences by searching for informal means of only regulating operators with significant market power through:

- (a) framing service definitions in a manner which are technology specific to Telstra such as the service description of local loop unbundling which is limited to copper networks¹⁶²; and
- (b) not applying TSLRIC to all declared services. The ACCC has stated in its Access Pricing Principles that TSLRIC is to apply only to those declared services in respect of which there is not effective competition.

5.22 The informal asymmetrical structure the ACCC was building into Part XIC broadly looked as follows:

¹⁶² ACCC, Declaration of Unconditional Local Loop, http://www.accc.gov.au/telco/listdecserv5_10.htm.

Figure 5.3



5.23 However, this informal asymmetrical approach has broken down as the ACCC has had to recently confront arbitration requests between non-dominant operators, particularly in respect of GSM terminating access. This breakdown is mainly attributed to a confusion between the general competition law concept of “bottleneck” and the principle of any-to-any connectivity. The ability of each customer connected to one network to be able to call each customer connected to each other network is a characteristic of the telecommunications industry. Each customer can be accessed at a particular fixed or mobile telephone number over the relevant direct connect

operator's network. This has led to comments that terminating access is a "bottleneck" and should be regulated at TSLRIC.

5.24 The consequences of this approach are:

- (a) all network operators are regulated irrespective of their market power. A new entrant with five lines is regulated in the same way as Telstra within 9 million lines;
- (b) A competitive market is prevented from developing and operating effectively; and
- (c) the ACCC is involved in detailed price setting of access to the component networks of multiple new entrant operators.

5.25 Any-to-any connectivity does **not** require direct interconnection between each operator. Indeed, in a multi-carrier environment, direct interconnection is unlikely to be a primary means of achieving any-to-any connectivity¹⁶³. This is demonstrated by the Internet which has achieved connectivity on a global scale without any regulation. This is possible because there is, in the absence of significant market power, a balance of incentives to connect in the most efficient manner.

5.26 Consequently:

- (a) it will often be economically efficient for new entrants to not directly connect with each other because the establishing transit arrangements will be more efficient; and
- (b) refusal by a new entrant to provide direct interconnection will unlikely result in the other carrier's customers not being able to call customers on the first network because transit arrangements are available.

5.27 Further, it is unlikely a new entrant will be able to sustain a universally high price to all interconnection operators.¹⁶⁴ There will be different balances of incentives

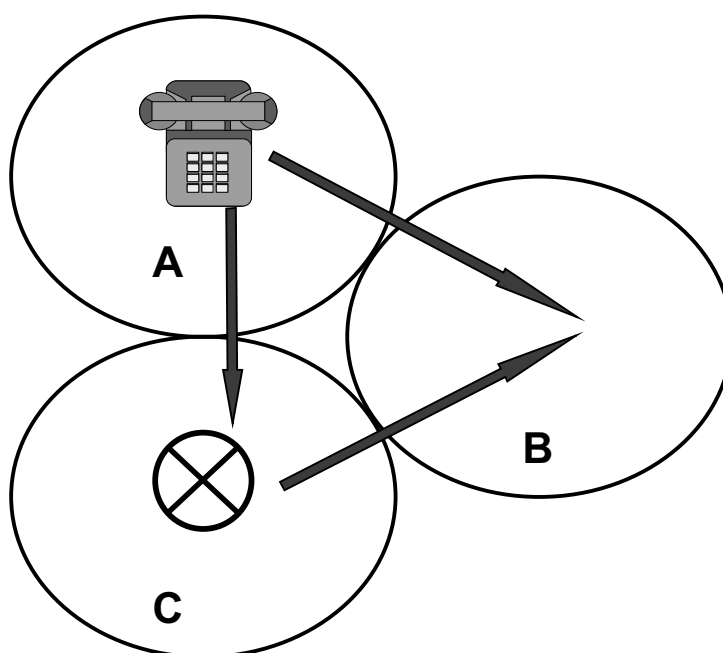
¹⁶³ If all networks are interconnected directly the minimum number of separate links is (N-1)! — where N is the number of carriers. This very quickly becomes practically unworkable in a multi-carrier environment requiring, for example, 362,880 separate direct links in a 10 carrier environment. By contrast, the minimum number of links necessary to establish any-to-any connectivity using transit carriage services in a multi-carrier environment is N.

¹⁶⁴ A market based solution to attempts by terminating providers to charge termination prices that are inefficiently high is to not mandate for originating access providers without market power an obligation to interconnect to the terminating provider.

between the new entrant and its interconnected partners which may result in the new entrant negotiating lower prices for termination or even bill and keep arrangements. Other carriers then can exploit these arrangements through transfer.

- 5.28 In a market in which there is more than two interconnecting operators, A will have several indirect access options to terminate traffic with B, B will strike interconnection arrangements with the other new entrants (who will also not have market power). A's regulatory obligations probably will not extend to acting as a transit carriage service provider to B. A may well decide to offer transit as a commercial service to allow B to access the other operators, but more usually B will wish to establish direct interconnection with other operators. B's interconnection relationships with the other operators obviously will not be characterised by the same dynamics as its interconnection relationship with A. The relationship between operators without market power is depicted in the following diagram:

Figure 5.4



Explanatory notes

- C is a new entrant with 20,000 exchange lines. C has no market power in any relevant retail or wholesale market;
- the traffic flow between B and C is likely to be broadly symmetrical. This is because customers tend to make as many calls as they receive. Carriers also

have an incentive to ensure traffic is balanced to minimise their net cash outflows in termination payments;

- hence, it is unlikely that B would have the leverage to extract from C the high interconnection charge which B is seeking to extract from A;
- A is able to "piggy back" on the lower termination charges applicable between C and B, using C as a transit provider to terminate calls from A's subscribers to B's subscribers; and
- B is unable to take action to prevent C being used as a transit provider because B is unable to distinguish the call origination location. As calls are passed by C over the point of interconnection, B is only aware of the call termination location. Even if B was able to access the calling line identification, it would be impracticable for B to undertake an analysis of each individual call to determine its call origination.

5.29 Accordingly, regulation on the basis of any-to-any connectivity currently contained in Part XIC is misconceived.

Making Access Regulation More Effective

5.30 Cable & Wireless Optus believes the current regulatory regime would be more effective if:

- (a) regulated supply requirements for declared services applied only to those operator(s) with substantial market power in the relevant market in which the declared service is provided.
- (b) the Standard Access Obligations were underpinned by rules designed to achieve greater transparency and verification. These rules would include, along the lines of the UK regulation, requirements for prior notification of and regulation over network changes and regulator reporting on compliance with the non-discrimination obligation in relation to non-price terms of supply.

6. The Role of Convergence

Issue Paper Questions

This chapter considers the following questions raised in the Issues Paper:

- *What impact will future developments (such as technological and enterprise convergence) have on the need for or form of industry-specific competition regulation?*
- *To what extent will the growth of alternative networks increase competition and reduce (or increase) the need for competition legislation in some areas? How rapidly will this occur?*

Key Points

- Incumbents universally argue that convergence will "naturally" steer all market participants to equilibrium and dispense with the need for regulation to deliver a competitive environment;
- however, convergence is not a homogenous force with a consistent impact on technologies, networks, gateways or markets. Convergence also is generally proceeding more gradually than is often claimed;
- while providing opportunities for greater competition, convergence may tend to re-enforce monopoly characteristics and risks;
- the incumbent's entry into convergent services allows it to exploit its existing economies of scale and density derived from its PSTN networks and allows the incumbent to realise significant scope of economies. The incumbent can also, in a similar manner as in the Microsoft case, leverage its existing market power into convergent services through anti-competitive bundling and other strategies;
- the danger of overestimating the pace of convergence and underestimating the risks of cross market leverage is that regulatory safeguards addressing market power will be prematurely curtailed: for example because markets are redefined too broadly; and
- while convergence provides opportunities, within an appropriate pro-competitive framework, to reduce the incumbent's market power, there are clear risks, in the

absence of such a framework that convergence may permit the incumbent to entrench its market power.

How Fast is Convergence Occurring

- 6.1 There is no doubt that convergence will be a significant driver of change in telecommunications markets throughout the world. However, it is critical to assess the pace of convergence objectively:

"The overall picture is complex and uncertain. In some instances convergence has already occurred but the true erosion between separate markets has still not happened. In other instances, convergence is either beginning to happen now or can be envisaged but, once again, it is difficult to foresee the genuine meeting of previously separate markets.

A review of forecasts for various convergent products and services made five years ago and compared to what has actually happened illustrates the difficulty for anyone to predict the eventual form of convergence. In some cases customer uptake has been faster than forecast (mobile, Internet), in others considerably slower (computing, videophones and videoconferencing, multi-channel television) or still uncertain (ISDN, interactive TV, UMTS).

*Our view is that, for the most part, the drivers of convergence develop over generations (particularly in the case of infrastructure, wealth, skills and attitudes) not year by year. Even when they have a sudden effect, for example in the case of pricing, the form and instances of their occurrence are unpredictable."*¹⁶⁵

- 6.2 While some have predicted that the PSTN will be transformed into an IP-based network, others take a more skeptical view:

*"..... whether [IP technology] acts as a catalyst for re-engineering the public network and creating a viable IP **convergence market clearly will take decades to fully emerge.**"*

- 6.3 New technologies undoubtedly have allowed market participants to deliver existing, known and "unconverged" services more cost effectively, but much of this is opaque to customers (other than potentially through lower prices). A report on convergence prepared by the UK Department of Trade and Industry concluded that:

¹⁶⁵ Spectrum, *The Scope, Pace and Consequences of Convergence*, November 1999 at page 3 (attached).

“From the provider's perspective, digital technology is already widely deployed before services are presented to the consumer. So convergence is already bringing significant opportunities to:

- *gain economies of scope and scale across different areas of the business (eg production and distribution);*
- *gain value by extending services from one medium to another as their technical capabilities become increasingly interchangeable; and*
- *undertake alliances, mergers and significant investment to exploit these strategic opportunities.*

From the consumer's perspective, the picture is far less clear:

- *mass markets for digital services do not yet exist;*
- *how they develop depends on the behaviour of individuals and communities reacting to new technology and services; and*
- *the behaviour and expectations of consumers will not change overnight.”¹⁶⁶*

6.4 There are many examples of over-enthusiastic predictions of the pace of convergence:

- (a) in 1982, the UK Minister for Information and Technology predicted that “by the end of the decade multi-channel cable television will be common place country wide...TV will be used for armchair shopping, banking, calling emergency services and many other services.” Over 20 years later, this is still not a customer reality and indeed it may never happen;
- (b) in 1979/80, BT introduced a consumer videotext service called Prestel, which was intended to revolutionise the way customers accessed information in the UK. By the mid 1980s Prestel only had a 100,000 subscribers and was sold by BT in 1994;
- (c) in the United Kingdom, teletext has been very successful with over 60% of households having teletext capability. This service is used daily by 9.4 million

¹⁶⁶ United Kingdom Department of Trade & Industry, *Regulating Communications: Approaching Convergence in the Information Age*, at page 3.

people and weekly by nearly 20 million people. It is the largest holiday advertising medium in the UK. By contrast, teletext has been largely unsuccessful in Australia, with the Channel 7 Network being the only remaining terrestrial broadcaster to offer teletext services. This is a salutary reminder of the fact that convergence proceeds at different speeds not only in different industry sectors, but also in different countries; and

- (d) the Minitel service deployed in France to provide on-line information and e-mail was predicted as “the next big thing”, but has now been unceremoniously supplanted by the Internet.

The competitive paradox of convergence

6.5 Convergence offers many opportunities for new entry. Many convergent technologies are potentially examples of "disruptive technologies". These are new technologies which are initially targeted at a niche customer base, but which can grow dramatically and quickly overturn existing market structures and market leaders. The usual example given of disruptive technologies is the impact which online brokers have had on the long established traditional brokering houses.

6.6 However, as Spectrum has commented:

“It is very difficult to identify [in the communications industry] any recent form of convergence that has had this type of revolutionary impact – no convergent product has combined the success of and mould breaking effects necessary to do so.”

6.7 The reasons for this seem to be as follows:

- (a) Incumbents have been able to successfully counter the threat to their market share by introducing the “disruptive technologies” alongside their existing products¹⁶⁷;

¹⁶⁷ Telstra, for example, deployed an overlay broadband cable network in response to the deployment of the Optus Vision network. Telstra has openly characterised this deployment as a strategy to defend its telephony business on its PSTN network. Optus has commenced section 46 proceedings against Telstra alleging that the deployment of the broadband network represented a market foreclosure strategy by Telstra. Some overseas regulators have restricted PSTN incumbents from deploying broadband networks or offering broadband services over their PSTN networks so that new entrants are able to exploit the opportunities of broadband technologies to challenge the incumbent's market power: for example, the European Commission has required PSTN incumbents to divest themselves of their cable TV networks and BT in the UK is prevented from offering entertainment over its PSTN network in competition with the cable telephony network operators.

- (b) as convergent services are delivered over the incumbent's local network, it has opportunities for cross-market leverage; and
- (c) convergence can reinforce the economic characteristics of monopoly markets.

6.8 Fixed line distribution networks will form the essential component of any future converged market, as with 'traditional' telephony services. Some technology exerts have previously predicted the copper loop may be to subject to obsolescence. Control of the copper loop was, therefore, assumed to provide its owners with limited dominance in the market.

6.9 However, in contrast to these predictions, the copper loop has become more valuable and technologically sophisticated through time. The copper loop is now being employed for a range of products and services beyond standard telephony, including Internet and digital subscriber line (xDSL) technology. Convergence has allowed the copper loop to be utilized as a broadband network, again offering the incumbent an easy path to leverage its dominance in fixed telephony into key emerging markets.

"Incumbent telecom companies with their ubiquitous networks enjoy a position of considerable dominance. Experience elsewhere shows that, even when faced with local cable access monopolies, the dominant incumbent wire line provider is always in a position to leverage its position in consumers' minds and its ubiquity, to successfully challenge competitors. ... The advantages enjoyed by incumbents are in essence first mover advantage that were built up under a situation of statutory monopoly and, in some cases, government subvention.

*High telecom prices are a major factor explaining Europe's low Internet penetration, and the shorter connection times of Internet users. The 1998 telecoms liberalisation has already delivered positive results on this account. But obviously this is not enough. The main reason is that the local access market is still largely dominated by incumbent operators. And this, in spite of the development of new and alternative networks. Access to the local loop is therefore a pressing issue for new entrants."*¹⁶⁸

6.10 The incumbent's ability to deliver convergent services over an upgraded copper network allows it to leverage off the huge economies of scale, scope and density which the incumbent already derives from that copper network in its delivery of

¹⁶⁸ Erkki Likanen, Member of the European Commission for Enterprise and the Information Society, "E-Europe, An Information Society for All", 11 January 2000. <http://www.europa.eu.int>

PSTN services. Further, although there are some additional capital costs in upgrading the copper network, most of the network costs to support delivery of convergent services, the copper and trenches, have already been sunk. In addition, the array of convergent services offered over the copper network increases the economies, particularly of scope, which the incumbent already enjoys.

- 6.11 The incumbent can also rapidly accelerate its market share of newly emerging services by leveraging off its dominant PSTN base, in much the same way as Microsoft leveraged its web browser off its dominant operating system base. New services can be bundled with existing PSTN services through price or non-price tying.

*“Microsoft’s consideration of Windows and Internet Explorer constitute[s] unlawful tying to the extent that those actions forced Microsoft’s customers to take Internet Explorer as a condition of obtaining Windows.”*¹⁶⁹

- 6.12 The impact of the incumbent tying new services and old services under the rubric of convergence is accelerated in the communications industry by the strong presence of network effects, tipping and path dependency, as discussed in Chapter 1. The ACCC has recognised the dangers to competition of the incumbent's strategies in convergence on three occasions:

- (a) The ACCC twice rejected the merger between Foxtel and Australis. while the theory of network affects was not well developed at the time, the ACCC recognised that a Foxtel/Australis merger would permit Telstra to foreclose market entry in local telephony by locking in the existing incumbent telephony base with a convergent package of entertainment and telephony services; and
- (b) the ACCC recently rejected the proposed acquisition by Telstra of the OzEmail ISP business. The ACCC identified the risk to competition of permitting a "positive feedback loop" between Telstra's dominant telephony position and the dominant position of the merged Telstra/OzEmail ISP business.
- (c) “The impact of the proposed acquisition could be further compounded by the fact that Telstra is the major provider of infrastructure services to other ISPs. This acquisition coupled with Telstra’s strength in the wholesale provision of

¹⁶⁹ United States of America v Microsoft Corp., Civil Action No 98-1232, US District Court of Columbia at 25.

Internet services could give it the capacity to distort and hinder the competitive process.”¹⁷⁰

- (d) An example of the telephony-ISP non-price tying was the unified messaging system between Telstra GSM customers and Telstra.com email: Telstra's mobile customers would receive a message on their handset that an email had been received to their Telstra.com ISP address. This functionality was not available between other mobile network and the Telstra.com ISP services or other ISP services and the Telstra GSM service.

Telstra entered the ISP market sector after OzEmail and a number of other smaller ISP's. However, Telstra has been able to substantially make-up any lost distance by being able to leverage off its existing telephony base. Similarly, Telstra has been able to leverage its copper loop access into high speed data markets through products such as ISDN, which utilise upgraded copper. This affords Telstra considerable advantages in supplying fast data products to large business customers.

6.13 It is erroneous to regard convergence as a homogenous concept. There are different forms of convergence, though each moving at a different pace and each presents its own risks to competition. The different forms of convergence include:

- (a) *Network level technology convergence*: this involves the merger of underlying transport technologies, such as circuit switched and packet switched networks;
- (b) *bundled convergence*: services continue to be delivered over separate platforms and are used separately, but are sold, priced and billed in a single retail package;
- (c) *gateway convergence*: this involves separate services, usually delivered over one transmission pathway which are accessed by the customer through a single user interface, such as a set-top box;
- (d) *service convergence*: this involves the delivery of multiple services through a single "pipe" to the customer, such as over xDSL or a broadband network;
- (e) *substitutional service convergence*: this involves an existing service "encroaching" on another existing service and substituting for that service, such as voice mobile services substituting for fixed voice services; and

¹⁷⁰ ACCC, Media Release, Telstra/OzEmail Preliminary Advice, <http://www.accc.gov.au/media/mr-13-00.html>.

- (f) *new converged services*: this involves the use of new technologies and functionality to develop entirely new services, which may or may not substitute for existing services.

6.14 The competitive risks which arise from the different forms of convergence can be summarised as follows:

Table 6.1: Summary forms of convergence, benefits and risks

Form	Example	Benefits	Risk
Network Level Technology Convergence	Circuit & packet-switched networks converge to packet-switched ATM networks	Allows realisation of substantial technological and economic efficiencies and economies; Reduces sunk costs and facilitates entry.	Incumbent realises greatest economies; Underestimation of incumbent market power in downstream retail markets; Convergence of technology mistaken for convergence of markets.
Bundled convergence	Fixed telephony and Internet access offered as single cut-price package.	Facilitates end user access to emerging services; Offers purchasing economies.	Incumbent leverage from monopoly services into emerging and competitive services; Convergence of retail packages mistaken for convergence of markets; Over-estimation of Substitutability of services.
Gateway convergence	Palm-top access to voice telephony, Email and limited web-browsing.	End user convenience; Purchasing economies.	New bottleneck constraining downstream competition; Renews advantages of vertical integration and “last mile”
Service convergence	Pay TV & Internet via ADSL	Assists entry through multiple revenue streams	Incumbents able to delay innovation through control of local loop; Creation of new bottlenecks.
Substitutable service convergence	Fixed and mobile telephony	End user choice and convenience; Possible challenge to market power in local telephony.	Overestimation of degree and pace of substitutability overestimates convergence of markets and disguises incumbent market power; Incumbent scale and scope offer significant advantages
New Converged Services	Unified mailboxes	End user convenience; Development of new markets.	Incumbent delays or prevents access and interconnection; Renewed advantage of vertical integration.

Extent of Substitutability of Alternative Local Networks

- 6.15 Incumbents argue that their copper local networks are being substituted by local networks utilising new wireless and fixed technologies, and that their market power has diminished accordingly to the point where regulation may be wound back.
- 6.16 The scope and likelihood of substitutability between new local network technologies and the existing copper local network must be assessed against the following three criteria:
- *Bandwidth* – how much data is the network capable of delivering, and how much will this have improved over the next 5-7 years? In a voice environment, data rates are not such a concern, but since high-bandwidth data services are rapidly becoming the key driver of telecommunications markets and the information economy, this is already a critical differentiating factor between services.
 - *Deployment* – how long will it be until the service will be deployed, and what proportion of consumers will have access to it within the next 5-7 years?
 - *Economics* – does the comparative cost of the service allow network operators and consumers to use it as a substitute?
- 6.17 The following compares the likely candidates for substitutable technologies against these criteria:
- HFC Cable;
 - 2G Wireless;
 - 3G Wireless; and
 - Wireless Local Loop (WLL) - usually provided using Local Multipoint Distribution System (LMDS) technology.

Local Multipoint Distribution Service

- 6.18 Local Multipoint Distribution Service (LMDS) is a broadband wireless technology used to deliver voice, data, Internet and video services. LMDS is not widely deployed anywhere in the world. This is despite the fact that US\$580,000 million was spent on

LMDS Spectrum in the USA in March 1998. Technical and cost constraints prevent the use of LMDS spectrum for the roll-out of a ubiquitous broadband network.

- 6.19 In order to provide ubiquitous and reliable coverage, distances between LMDS base stations must be between 2 to 3 kilometres. An LMDS provider would need to establish approximately 12 base stations to every one GSM base station in order to achieve the same geographic coverage as that provided by the mobile base station.
- 6.20 From a cost recovery perspective, based on a five year capital recovery period, in order to provide reliable LMDS coverage there must be high population density and/or large business users located in the coverage area.
- 6.21 The combination of cell planning arrangements, with inherent limitations due to propagation characteristics, mean that LMDS must be deployed with a large number of base stations in order to provide a reasonable coverage of any particular area. This creates a cell site density limitation.
- 6.22 In addition to the loss of power due to distance, the physics of propagation at 28 and 31 Gigahertz are such that other factors need to be taken into account.^{171,172} These include attenuation (whether by atmospheric gases, precipitation, foliage, diffraction, or due to reflection and signal scatter). In addition, rain fade can be caused by a number of different factors.
- 6.23 LMDS is principally used for business type applications and is most effectively used to target large business and government customers who require high speed data and video type services. In higher population density areas, LMDS could be used to provide broadband services to high value residential users and small and medium sized enterprises where those customers are located in highly densely populated areas.
- 6.24 It would be not be cost efficient to use LMDS outside of the CBD areas. The use of LMDS spectrum on a stand-alone basis is not appropriate for rollout of a ubiquitous network or, indeed, a suburban broadband network. In the US auctions for LMDS spectrum, the most significant revenues were raised for licences in Los Angeles, New York, Chicago and San Francisco (25% of the total revenue was raised in respect of licences auctioned for these four largest cities of the United States). In these cities, the amount bid per capita was close to \$3 per head whereas the amount bid in smaller

¹⁷¹ Millimeter Wave Propagation: Spectrum Management Implications, Federal Communications Commission – July, 1997

¹⁷² Propagation impairment at 28GHz by Mike Mead, America's Network – 15 June, 1998

centres approaches (and in some cases is) less than half of that figure per capita. Further, bids for licences in the top 20 cities (all of whose population exceeded 2.4 million) made up more than 55% of the total amount bid at the U.S. auction even though only 33% of the U.S. population lives in these cities. These cities not only correlate to high population areas but the key business centres in the US.

- 6.25 Early models of LMDS assumed that customer premises equipment for LMDS operations would be approximately US\$650.00. However, these prices assume a reasonably high penetration of services in the US market, which has not yet occurred. Indications from companies such as Teligent and Winstar are that customer premises equipment prices are currently around US\$1,000 and that this is close to the cost price for the manufacturer.¹⁷³

2G Mobile/3G Mobile

- 6.26 GSM telephones with appropriate interface devices can use their 13 kbps digital capacity to carry digital data at 9,600 bit/s. Suitable software at the switch can make this appear to the outside telephone network like a standard 9,600 bit/s modem call. The GSM specification offers users a variety of advanced features and services including speech encryption, facsimile, data services and the Short Message Service. More advanced data transmission functions, facsimile and generalised packet radio feature on the list of enhancements.
- 6.27 High Speed Circuit Switched Data (HSCSD) will boost the speed for GSM users up to 64 kbit/s and higher. Interconnecting this 64 kbit/s wireless capability with public ISDN networks, for example, will give mobile users complete end-to-end digital connectivity with the attendant benefits of very fast set-up times and high link quality.
- 6.28 General Packet Radio Services (GPRS) is a packet-switched network service, which will be ready for implementation by 2000. GPRS will enable higher-speed data services for mobile users. As a packet-switching technology, GPRS will be suited to the highly bursty nature of most data applications. GPRS will provide a seamless connection to data services via interfaces to TCP/IP. Messages will be delivered direct to the user's telephone, without the need for a full end-to-end connection. When they switch on their telephones, users will get a notification that they have a message waiting and have it down-loaded automatically.

¹⁷³ *Local Multipoint Distribution Service: Wireless Wonder or Broadband Bust?*, George Leopold and Brian Santo, EE Times; *Opportunities and Challenges Facing LMDS*, Andy Fuertes, America's Network – 15 June 1998; *LMDS: Finally ready for prime time?*, Daniel Sweeney, America's Network – 1 August 1998

- 6.29 However, GSM is largely tailored for the delivery of voice services. While 3rd generation mobile has the potential to offer speeds of 2mbs and to provide customers with access to the Internet (this is approximately three years away), the spectrum designated for such services does not have sufficient capacity to offer broadband services on a large scale. Furthermore, GSM cost structures are prohibitively expensive to enable effective price competition with wireline local loop access. World-wide GSM cost and price structures are 5 to 10 times higher than wireline services.
- 6.30 In addition, voice quality remains superior on wireline networks than cellular technology, and is strongly perceived by consumers as such.
- 6.31 Accordingly, GSM services cannot be viewed as a viable substitute for wireline local loop access.

CDMA

- 6.32 CDMA is a "spread spectrum" technology, which means that it spreads the information contained in a particular signal of interest over a much greater bandwidth than the original signal. The standard data rate of a CDMA call is 9600 bits per second (9.6 kilobit per second). This initial data is "spread," including the application of digital codes to the data bits, up to the transmitted rate of about 1.23 megabit per second. The data bits of each call are then transmitted in combination with the data bits of all of the calls in the cell. At the receiving end, the digital codes are separated out, leaving only the original information which was to be communicated. At that point, each call is once again a unique data stream with a rate of 9600 bits per second.
- 6.33 CDMA has an inherent data capacity of 14.4 kbit/s. However, while CDMA services are used by some ISPs for the delivery of Internet services to end users (on a best endeavours basis), CDMA utilises an unmanaged frequency band (the worldwide spectrum "ISM") which has inherent limitations in relation to security and quality of service. Such technology is therefore not viable for the delivery of mission-critical data access services. Accordingly, CDMA services cannot be viewed as a viable substitute for wireline local loop access.

HFC Cable

- 6.34 Significant HFC network infrastructure has been deployed in Australia. However, given the large cable costs, HFC cable is suitable only for more densely populated

urban areas. The Cable & Wireless Optus HFC network passes only around 35 per cent of all residential homes.

- 6.35 Due to changes in environmental planning laws post 1997, it will now be more difficult to roll-out aerial networks. Telstra has inherited legal rights, owing to its ownership of pre 1997 infrastructure, allowing it to upgrade its local distribution network without obtaining similar environmental approvals that a new entrant would need.
- 6.36 Telstra also has deployed its own broadband-network. The Telstra network passes most homes in the larger urban areas. Telstra pursued an aggressive overbuild strategy and has also overbuilt 80 per cent or more of the Cable & Wireless HFC network. Telstra's strategy, in CWO's view, has been designed to foreclose entry.

The comparison of these local network technologies is summarised in the table below:

Table 6.2.

Service	Bandwidth	Deployment	Economics	Notes
Copper local loop (with DSL)	Currently up to 6.1 Mbps, but potentially up to 8Mbps downstream (to customer). Currently up to 128Kbps upstream (return path – away from customer)	Potentially ubiquitous within a relatively short period of time. Currently some limitations on loop length (needs to be within 5kms of exchange), but may be overcome by continuing technical development.	G-Lite modems currently cost approximately \$300, but in other jurisdictions are provided free with monthly rental contract (eg USA). Cards at local exchange cost approximately \$800. Prices for both have reduced significantly over recent years.	Note that DSL is an “always on” dedicated data link – offering significant advantages over other access technologies. Note that few predictions of future data rates over copper have been published – perhaps since 6.1Mbps is considered to be sufficient for most users for the foreseeable future.
HFC Cable	Generally 1-10 Mbps	Mainly only suitable for suburban areas. Revocation of carrier immunities may further impede deployment. Telstra claims limited local duct space for further deployment by other carriers.	Customer installation of \$0-330. Subscription approximately \$40 a month.	As cable is a shared network within each node, users may experience significantly lower data rates during peak times. Significant environmental impacts which may impede further rollout.

Cable & Wireless Optus

Regulatory and Public Affairs

Service	Bandwidth	Deployment	Economics	Notes
2G Wireless	9.6kbps	Currently deployed	From \$20 a month + usage charges. Limited incremental cost of 2 1/2 G.	Highly limited bandwidth means it is no alternative to copper.
3G Wireless	Likely to be up to 144kbit/s with perhaps 384 kbit/s in some urban areas. Originally cited at 2 Mbit/s but unlikely to be achieved for some time, data rates may approach this in the medium term but only while user remains stationary.	Probably 4-7 years until widespread deployment. Standards not finalised. Handset design difficulties remain.	Potentially large spectrum acquisition costs New mobile infrastructure must be deployed - costs of building out network unknown.	Spectrum issues. Technology standards to be established.

Consequences For Regulation

6.37 Over estimating the extent and pace of convergence carries the following risks:

- (a) *underestimation of the incumbent's market power*: assumptions about convergence of separate markets usually results in redrawing market boundaries to encompass a larger market. The consequence is to dilute indicators of market power, such as market share. The force of cross-market leverage across separate markets can also be obscured if the market boundaries are prematurely expunged;
- (b) *inappropriateness of a "one size fits all" regulatory model*: many of the markets which are said to be converging still retain very different market characteristics. Technology neutral regulation can overlook these important and continuing differences. For example, the broadcasting industry is characterised by a licensed oligopoly and the absence of "resale" activity at the wholesale level. By contrast, there are no regulatory entry barriers for carriers deploying telecommunications infrastructure and there is an emerging resale market.
- (c) *future direction of convergence may be distorted*: the assumptions about the direction of convergence on which converged regulatory approaches are based may well turn out to be incorrect. As discussed above, there are many examples of false predictions about convergence products. Regulation designed on a particular prediction or view of convergence will likely, ex post, be shown to be incorrect and of inadequate design. This will have the effect of distorted the path of convergence from its natural direction; and
- (d) *"Because direct access routes into the home or workplace will remain limited, companies with internet power in access networks (and/or gateways) have the ability (and may have the incentive) to foreclose markets for services."*¹⁷⁴

6.38 For these reasons, overseas policy makers have advocated a more incremental regulatory approach given the uncertainty surrounding convergence:

"The debate on convergence often ... polarises, with policy makers sometimes asked to choose between two visions:

¹⁷⁴ OFTEL, Communications regulation in the UK, July 2000, <http://oftel.gov.uk/about/whit0700.htm>., page 2.

- *a radically new regulatory structure is needed to avoid barriers to competitiveness because convergence is with us; or*
- *the status quo will suffice because mass markets have not yet converged to a significant extent.*

The Government considers this a false choice. The fact that technologies are converging does not mean that the markets which employ them become indistinguishable ... rather than making a false choice between tearing up our regulatory structures or sticking to the status quo, we will follow an evolutionary path. We will work with the regulators to ensure that they co-operate to manage overlaps and anomalies. Where those problems cannot be solved by regulators operating within the current legislative framework, we will, if necessary, amend the legislation on a case by case basis in advance of possible wider change.”¹⁷⁵

- 6.39 CWO recommends that, as an initial step in addressing convergence, that common issues across converging industries such as broadcasting and communications should be regulated consistently. This does not mean, however, that the need for electronic communications-specific regulation is diminished. Indeed, the available evidence indicates convergence is increasing Telstra’s market power — and the need for pro-competitive regulation is increasing.
- 6.40 Preferably this pro-competitive regulation should be done by a single competition authority. In particular, the current approach to broadcasting regulation is based on a number of theoretical underpinnings that are anti-thetical to increasing competition in markets, diversity of services and innovation, and promoting consumer choice and welfare. The regulatory focus should be on removing artificial constraints to convergence, the removal of barriers to entry and promotion of competition in markets, and constraining the exercise of market power. The competition regulator would:
- (a) *Focus on pro-competitive policies in the transition towards a converged environment*, by for example, ensuring broadly consistent policy approaches between potentially converging sectors on similar issues, such as access and interconnection. The regulator should also focus on the removal of any

¹⁷⁵ <http://www.dti.gov.uk/converg/exec.htm>.

regulatory/legal barriers to competition - such as current restrictions on entry in free to air broadcasting;

- (b) *Preventing a participant with power in one market exploiting regulatory asymmetries* between that market and an adjacent market into which it is supplying services to other participants. For example, a vertically integrated content provider and pay TV broadcaster may benefit from the lack of access requirements on its terrestrial or satellite broadcasting network but may seek to exploit any open access rules which are applicable on fixed networks;

There are currently major asymmetries in Australia between the regulation of broadcasters and carriers. The free-to-air broadcasters were exempted from the 1997 telecommunications regulatory regime because their networks were used solely for the carriage of their single channel services. The Government has subsequently decided to proceed with digital television standards which will permit multi-channelling, but the exemptions from the telecommunications regulatory regime, including access requirements, will continue to be maintained for broadcasters. As a result major regulatory inconsistencies have emerged between broadband networks owned by carriers and the broadband networks which will be owned by the free-to-air broadcasters and other radio communications based providers, as set out below.

Table 6.3: Australia's asymmetric regulation of broadband networks

Network	Are carriage services regulated?	Is access to 'gateways' (eg SMS & STBs) regulated?
Incumbent PSTN	Yes	n/a
Incumbent broadband HFC network	Yes	Yes
Optus HFC network	Yes	Yes
3G	No	No
LMDS	No	No
DTH satellite	No	No
Free to air multi-channel digital	No	No
Datacasters (eg NewsCorp)	No	No

- (c) *Ensuring that an incumbent is unable to anti-competitively leverage its existing market into a dominant position in a new market* as those markets

evolve. Otherwise the possibilities of fair, effective and vigorous competition in emerging convergent markets will be forestalled.

7. Telecommunications Act

Industry Development Plans

Cable and Wireless Optus believes that the requirement to submit Industry Development Plans to the Department of Communications, Information Technology and the Arts is a costly administrative burden which does not ensure that carriers source from local industry (the Plan's original intention). In summary:

- (a) carriers are unable to provide binding targets in their IDP to the Government as this is in breach of our World Trade Organisation obligations;
- (b) we source from manufacturers on the strength of their quality and prices and voluntarily spend 72 % of our capital expenditure on Australian content; and
- (c) preparing the plans is complex and expensive which ultimately increases the level of telecommunications prices.

Issue Paper Questions on Facilities access

- *What are the advantages and disadvantages of making access provision a licence provision when a telecommunications – pacific access regime has been established under Part XIC of the TPA?*
- *Why is this licence condition [relating to duct sharing and tower sharing] necessary when a telecommunications specific access regime has been established under Part XIC of the TPA?*
- *What has been the impact on investment and activity of mandating an access regime in this area?*

Key points on facilities access

- all access related issues, including to facilities, should be subject to a consistent threshold test of market power;
- the facilities access provisions of Part 4 should be consolidated into Part XIC.

Current structure of regulation

- 7.2 The provision of facilities access is currently required under 3 different access regimes:
- Part 3 of Schedule 1 (relating to access to all facilities in place prior to June 1991 or obtained by means other than commercial negotiation);
 - Part 5 of Schedule 1 (relating to access to underground facilities, towers and tower sites); and
 - Part XIC of the TPA (relating to ancillary access to facilities required for interconnection of declared services to take place).
- 7.3 Rights and obligations conferred by Parts 3 and 5 are limited to carriers, whereas rights and obligations under Part XIC also extend to carriage service providers.
- 7.4 Cable & Wireless Optus believes that the potential for overlap between these regimes is undesirable and unnecessarily confusing. We believe that the regime should be refocused on deficiencies which the market is unable to deliver and for the simplification of this regime as a result.

Current assessment of the market

- 7.5 Any facilities access regime must take account of the dynamic nature of the facilities market. With 6 mobile carriers – Telstra, Cable & Wireless Optus, Vodafone, OneTel, Hutchison and AAPT – as well as broadcasting transmission towers provided by NTL, there are now a significant number of different tower owners providers. Many of these players have emerged since 1997.
- 7.6 Telecommunications ducts continue to be a bottleneck facility supplied overwhelmingly by Telstra. There are other ducts are owned by electricity, gas and water companies. However, access to those ducts is currently only available to carriers affiliated with those utility companies because the regulatory requirements for facilities sharing do not extend to the utility owner if it is not a carrier itself. This means that utility-owned carriers benefit from asymmetrical application of the facilities access rules. Duct availability also could be significantly increased if these other utilities were subject to the regulatory requirements to provide access to carriers

and carriage service providers are given similar access on reasonable terms and conditions.

Confusion under Part 3

- 7.7 The tests under Part 3 are overly complex. The multiple tests required to be satisfied before access is required are unnecessarily complex and relatively confusing.
- 7.8 In particular, the date on which a facility is installed can no longer be said to be relevant to facilities access and should be removed. The distinction, which was not present in the 1991 *Telecommunications Act*, was added into the 1997 *Telecommunications Act* when the supplementary access obligations on general and mobile carriers in clause 6 of the *Telecommunications (General Telecommunications Licence) Declaration (No 1) of 1991* and *Telecommunications (Public Mobile Licences) Declaration (No 1) of 1991* were incorporated into that Act.
- 7.9 The distinction made sense when Telstra's asset base could clearly be divided into assets with which it was endowed when it was a monopoly carrier (pre June 1991 assets) and those which it acquired on a commercial basis afterwards. It is, however, no longer a meaningful distinction in the present environment of competition and merely makes facilities access under Part 3 unduly complicated.
- 7.10 Cable & Wireless Optus proposes the access regime to any facilities as under Part 3, subject to the proposed threshold test of the long term interests of end users.

Overlap under Part XIC

- 7.11 In addition to the facilities access regimes under Parts 3 and 5 of Schedule 1 of the Telecommunications Act, facilities access is also required to be provided under Part XIC in order to support interconnection.
- 7.12 The ACCC has the ability to make determinations under section 152CP(2) on any matter relating to access to the declared service. This determination may include the extension or enhancement of a facility by means of which the declared service is supplied. Therefore, a determination may be made in relation to access to, for example, exchange space as a matter relating to access to particular declared services, including the extension or enhancement of that exchange space.

- 7.13 The principal use for facilities access under Part XIC is in favour of carriage service providers. Carriage service providers are not entitled to receive nor are they obliged to provide access to facilities under the Telecommunications Act. Carriage service providers are, however, able to own and install equipment which does not make them a carrier but for which facilities access is required. For example, carriage service providers require access to exchange space in order to acquire the ULL service. The equipment they need to have installed does not make them a carrier. The only way they are able to get access to exchange space for this purpose is under Part XIC.
- 7.14 There is then a separate set of criteria which the ACCC is required to have regard to when making a determination under Part XIC. Amongst other things, the long term interests of end users is required to be taken into account.
- 7.15 We believe this separate access regime to apply to carriage service providers is unnecessarily confusing and should be merged into a broader access regime.

International comparisons

Hong Kong

- 7.16 Facilities access is not generally mandated in Hong Kong. However, all fixed telephone network service (FTNS) operators (including wireline, wireless and satellite and cable-based external FTNS operators) can, as a condition of their licence, be issued a binding direction by the Telecommunications Authority (TA) to co-ordinate and co-operate with any other FTNS licensee, the incumbent – CWHKT, or any other authorised person with respect to the provision, use or sharing of facilities.¹⁷⁶
- 7.17 The TA can only do this where it reasonably forms the opinion that it is in the public interest that those facilities be provided, used or shared. In considering the public interest, the TA takes into account:
- (a) whether the facility is a bottleneck;
 - (b) whether the facility can be reasonably duplicated or substituted;
 - (c) the existence of technical alternatives for the facility;

¹⁷⁶ See General Condition 31 of FTNS Licence

- (d) whether the facility is critical to the supply of service by the licensee;
- (e) whether the facility has available capacity having regard to the current and reasonable future needs of the licensee to which the facility belongs;
- (f) whether joint use of the facility encourages the effective and efficient use of telecommunications infrastructure; and
- (g) the costs, time penalties and inconvenience to the licensees and the public of the alternatives to the shared provision and use of the facility.

Singapore

7.18 SingTel, a the dominant carrier obliged to provide requesting facilities-based licensees with access to essential support facilities. Essential support facilities are defined as passive support structures, for which no practical or viable alternative exists, that enable the deployment of telecommunication infrastructure. They include:

- (a) co-location facilities in telecommunications exchanges, telecommunications equipment rooms located in commercial and residential buildings owned by the Dominant Licensee, satellite earth stations, submarine earth stations, submarine cable landing stations and radio tower sites;
- (b) manholes, cable chambers, trenches, ducts and conduits;
- (c) space within cable risers in commercial and residential buildings owned by the Dominant Licensee; and
- (d) masts, towers and poles.

7.19 There is no equivalent obligation imposed on non-dominant carriers.

Reservation of access providers needs

7.20 Under Part 5 of the Telecommunications Act, there is no explicit provision for the reservation by owners of facilities for their own reasonably anticipated requirements. Although there may be an interpretation that “reasonably anticipated requirements” is required to be taken into account when assessing whether an access seeker has

provided “reasonable notice” of its requirements, there has been considerable uncertainty caused by the absence of this criteria.

- 7.21 This means that access providers could build towers but immediately be subject to access requests which completely displace the access provider’s existing and future requirements. There is, therefore, a disincentive to invest in facilities.
- 7.22 Cable & Wireless Optus therefore believes there should be a provision for the access provider’s reasonably anticipated requirements in the same way as these requirements are to be taken into account under Part XIC. Cable & Wireless Optus supports the proposition that this assessment should be made by the ACCC rather than by a Court.

Application of facilities access regime to affiliates of carriers/carriage service providers

- 7.23 Cable & Wireless Optus has also expressed its concerns in the past in relation to the structures that have been promoted to avoid the application of the facilities access regime by carriers affiliated with energy companies. These companies have established carriers which obtain the benefit of the facilities access regime but which do not own or operate (to any significant extent) any facilities which could be subject to the facilities access regime. However, these carriers still have full and complete access to their affiliates’ facilities but these facilities have otherwise been quarantined from the application of the facilities access regime.
- 7.24 One solution to this issue which is to be adopted in Singapore is that affiliates of energy companies who are carriers are prohibited from accepting supply of access to facilities from their affiliates where that access is not otherwise available to other carriers and carriage service providers on reasonable terms and conditions. In this way, the Act continues to regulate carriers but addresses the quarantining issue above.
- 7.25 Cable & Wireless Optus would support a similar position here in Australia.

Proposal for Facilities Access

- 7.26 For the reasons set out above, Cable & Wireless Optus proposes the following changes to the three facilities access regimes in place:
- the merger of the three facilities access regimes under Parts 3 and 5 of the Telecommunications Act and Part XIC of the TPA;

- the introduction of a replacement facilities access regime which potentially applies to a broad range of facilities;
- the equal application of facilities rights and obligations in favour of both carriers and carriage service providers;
- the introduction of a “long term interests of end users” test as the threshold test to the facilities access regime;
- the refocusing of the application of the facilities access regime on the market power which is causing the market deficiency;
- the reservation to the ACCC of arbitral powers to determine the terms and conditions on which mandated facilities access is required to be supplied.

Issues Paper Questions on Access To Network Information

- *Why is legislation necessary?*
- *What had been the costs and benefits of requiring this information to be provided?*

Key points on network information

- requirements to give a specified period of prior notice for network changes facilitates entity self-regulation by providing industry associations with an opportunity to discuss and negotiate common solutions;
- any competitive problems have also arisen from the incumbence’s failure to notify changes in its network interfaces which have disrupted and disadvantaged other operators interconnected with the incumbent;
- the network information provisions of Part 4 should be consolidated into the Record Keeping Rules.

7.27 The network information sections in Part 4 of the Telecommunications Act 1997 has as their origin the licence conditions imposed on Telstra and Optus prior to 1 July 1997.

- 7.28 The information was intended to require carriers, as infrastructure providers, to provide access to information, regarding traffic carriage information, necessary to ensure efficient interworking between networks¹⁷⁷.
- 7.29 The principle deficiencies in the current requirements for disclosure of network planning information are as follows:
- the incumbent is not subject to clear ex ante obligations to disclose relevant network information, including changes in network interfaces and functionality, prior to the implementation of network changes;
 - the incumbent is not subject to an explicit requirement to provide access seekers with non-discriminatory notification of network information compared to the notification given to its own downstream retail operations, including the lead time for notification;
 - as the incumbent is not subject to these prior notification requirements, industry self regulatory processes often are hampered because the incumbent provides insufficient lead time for the industry to discuss proposed changes, or the incumbent simply proceeds without industry consensus; and
 - there is insufficient clarity about the types of services and network changes which must be notified because of their impact on interconnected operators and information which represents legitimate competitive advantage of the incumbent.
- 7.30 As discussed in Chapter 4, there are ex ante rules in the US and the UK which require an incumbent to give prior notification of network changes which relate to basic interoperability between networks. Telstra's failure to give prior notification of changed networked functionality or new network functionality has been a major competitive problem in Australia, such as the MOLI and auto call-back discussed in Chapter 4.
- 7.31 While Cable & Wireless Optus believes that the development of network information disclosure rules must be a priority, we propose that Part 4 should be rolled into the Record Keeping Rules under Part XIB. This will avoid duplication of information disclosure requirements. It will also link requirements for disclosure of network

¹⁷⁷ Explanatory Memorandum, Telecommunications Act 1997

information to the enforcement of the Standard Access Obligations under Part XIC, and provide a clearer policy rational and focus for the requirements to disclose information.

Access to Databases

- 7.32 The "first generation" of access and interconnection regulation inevitably focused on connectivity of the actual communication between end users. The information disclosure requirements were ancillary to the interconnection of the communication, such as the requirement to provide customer billing information to support preselected services. However, overseas regulators increasingly are focused on issues of access to call related databases and off network databases. These "second generation" interconnection issues reflect both a growing realisation amongst regulators of the competitive significance of information held by the incumbent and the more complex forms of interconnection required for new services to require cross network inter-working of databases.

Call-Related Databases

- 7.33 The FCC has determined that incumbent local exchange carriers should be required to provide access to call related databases on an unbundled basis for the purpose of switch query and database response through an SS7 signalling network. Thus, the incumbent must provide non-discriminatory access to its AIN platform and architecture. However, the FCC concluded that service software created in the AIN platform and architecture was proprietary to the incumbent and did not need to be supplied on an unbundled basis. The ensured the incumbent continued to have incentives to innovate functionality which sits "on top of" its basic AIN platform.
- 7.34 The call related databases to which an incumbent must provide unbundled, electronic and real time access include those databases in signalling networks used for billing and collection and the transmission or routing of calls, line information databases, toll free calling databases, local number portability databases and calling name databases.

OSS

- 7.35 The FCC also required access on a real time, non-discriminatory basis to operational support systems (**OSS**). OSS are the processes and systems used by network operator in conjunction with its network to support functions such as:

- metering and billing;
- log in faults and arranging a monitoring repair activity; and
- arranging services connections, including the booking of field appointments.
- seamlessly effecting customer transfers and maintaining customer relationships through the prompt delivery of provisioning, fault and maintenance services and billing information;
- ensuring that customers receive non-discriminatory treatment irrespective of whether they are acquiring services from the incumbent or a new entrant; and
- ensuring that new entrants are able to offer competitive services via the local loop and maintain customer relationships.¹⁷⁸

7.36 Access to the “bare” local carriage service without OSS would be ineffective and largely futile. Without access to OSS, a new entrant providing services over the local loop network cannot deal with billing queries or provide real-time information as to the status of provisioning or fault maintenance services requested by the customer. As stated by AT&T¹⁷⁹:

“Information stored on some special-purpose customer systems is essential to provide customers with local telephone service. The computer systems, called operations support systems (OSS), manage information necessary to establish and maintain service, develop billing records and provide maintenance and repair service.

¹⁷⁸ For a good discussion of the United States approach to this issue see Federal Communication Commission’s Memorandum and Opinion on Bellsouth’s entry into the long-distance market. Docket no 97-208, released December 24, 1997.

Under the FCC approach the incumbent’s databases, called Operation support systems (OSS), is treated as part of the local-loop bottleneck. The databases, among other things, enable the incumbent to formulate and provide requests for customer orders and new services, maintain and repair facilities, render bills and respond to billing queries. the incumbent, at present, refuses to supply its competitors with access to OSS.

Under the FCC approach the incumbent would be required to “provide to competing carriers OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing that is equivalent to what it provides itself”. (see Bellsouth decision at point 16, upheld in the Eighth Circuit Court of Appeals).

¹⁷⁹ <http://www.att.com/publicpolicy/oss.html>.

Access to such information is as critical for the introduction of competitive local telephone service as the wires and switches over which voice, data and video signals are carried.”

7.37 The information required by carriage service providers in order to provide a competitive product to customers includes:

- pre-ordering and ordering information (for example, details of the telephone number that the incumbent designates for an end user at the time when the order is placed — customers ordering a new telephone service directly from the incumbent will typically obtain details of the telephone number that they are to be assigned during the initial transaction in which they place the order with the incumbent);
- details on a real-time basis of the specific services and functionality provisioned to the customer from time to time;
- details on a real-time basis of all services acquired, and charges incurred, by the customer, including information relating to the customer’s usage data and billing; and
- details on a real-time basis as to the status of any provisioning, fault and maintenance work requested by the customer, eg: all details pertaining to the processes by which an order is placed and filled, including for example the processing of the service order, the provisioning and installation of that order within the incumbent network and at the customer’s premises (if necessary), details of completion and charging by the incumbent, and details pertaining to any rejection of a service order request; and
- all communications relating to planned and unplanned disruptions in service, including events that are affecting or will affect the incumbent network, reports of difficulties by customers, and the dispatch of services.

7.38 These information exchanges must take place in “real time” so that carriage service providers can offer customers convenient and effective service of a comparative level to the incumbent. For example, the incumbent customers can generally have a repair appointment scheduled in the same conversation in which they report a service problem — while the timeframe within which carriage service providers can advise

the appointment time to their customers is totally dependent on the timeframe within which the incumbent chooses to advise them of the relevant details.

- 7.39 Without access to the required databases and underlying information on a real-time basis, the quality of the customer service which carriage service providers are able to provide to their customers is largely determined by the incumbent — and the incumbent is free to determine in its total discretion the means (eg: whether electronic or manual), as well as the timeframe and regularity, with which all customer information is made available to carriage service providers.
- 7.40 It is recognised that security systems may need to be implemented to protect the integrity of the incumbent's OSS, but those security systems should not be unduly burdensome, should be proportionate to the material risks, and should be consistent with "state of the art" access controls and practice.

Preselection

- 7.41 Cable and Wireless Optus believes that preselection should be applied asymmetrically to the dominant carrier. Currently, however preselection in Australia applies to all networks. However, regulation of a new entrant infrastructure:

- is not required unless the new entrant has market power and can control price or supply (which is unlikely to be the case);
- creates a disincentive to further investment and high risk to new entrants and hampers competition; and
- has been rejected by other jurisdictions.

- 7.42 This proposition of asymmetrical regulation is supported by Professor Hausman who said:

"Regulation in telecommunications should only be used when potential market power needs to be controlled. Regulation imposes significant costs due to decreased innovation. No economic reason exists to regulate the access prices of a new entrant because the new entrant cannot have market power. Regulating the new entrant will lead to less investment, less competition, less innovation and harm to consumers. No other country has regulated access prices of the new entrant. It would be a serious economic mistake for Australia to engage in such misguided regulation"

Number Portability

7.43 After a number of false starts and significant delay, Australia has adopted regulatory principles in relation to local number portability which comply with world's best practice, including:

- the principle that each carrier is responsible for the costs of implementing local number portability within its own network. This recognises that number portability should form part of the necessary functionality of any network and that number portability enables each carrier to ensure calls made by customers from non-ported numbers can be completed to the dialled number, including numbers which have been ported from a carrier's network. Recovery of incumbent's costs in implementing number portability also represent a significant barrier to entry for competitors into local services;
- the requirement that the technical and operational solutions implemented for local number portability should provide equivalent functionality for calls made to or from numbers which are not ported;
- the recognition that call forwarding is a technically and economically inefficient solution for number portability and itself constitutes a barrier entry. Call forwarding does not support equivalent functionality and its practical affect is to degrade in the eyes of consumers the functionality and value of new entrant networks because numbers ported from the incumbent's network cannot support equivalent functionality;
- the requirements to implement a IN solution for number portability;
- the use of industry based arrangements and a common database to support toll free service number portability.

7.44 As discussed in Chapter X, number portability issues could have been resolved more speedily if the ACCC had been given full responsibility for determining the key requirements for the number portability solution, on the basis that those requirements had significant competitive implications.

7.45 While an acceptable framework for number portability has been put in place, there have been substantial problems with the implementation of portability by Telstra.

These difficulties are a good example of how pro-competitive policy decisions made by regulators can be undermined by the incumbent in the detailed arrangements for their implementation. Regulators can often not fully appreciate that "the devil is in the detail" and can be reluctant to intervene in detailed implementation issues.

7.46 The ACA directed that number portability was to be made available by all carriage services providers for all local numbers by 30 June 1999. It was not until 6 July 2000 that Telstra advised Cable & Wireless Optus that special arrangements would be required to port numbers for customers that call traffic exceeding 15 erlangs, which is equivalent to 20-30 standard telephone lines. The special procedures required by Telstra are as follows:

- where a port include services which are 15 erlangs or more, Telstra will not port the number until Telstra has first undertaken a feasibility study of the porting request;
- the feasibility study will consider whether there are any network upgrades or capacity expansions required to support the port, and this work will need to be undertaken before the port is implemented;
- Cable & Wireless Optus will be required to pay \$1000 for the feasibility study, regardless of whether the feasibility study determines that the port is feasible;
- if capacity upgrades are required within the Telstra network to support the port, the timeframe for completion of the work may be up to 10 months in respect of each customer;
- Cable & Wireless Optus must provide Telstra with traffic forecasts for the customer 12-18 months out, and the forecasts must be specified by Telstra local exchange area;
- if Cable & Wireless Optus fails to meet its forecast figures, Telstra will require Cable & Wireless Optus to contribute to the cost of Telstra's network capacity upgrades.

7.47 The ACCC's decision on local number portability recognised that number portability had the greatest benefit for corporate customers. Without the capability to port their numbers, corporate customers were highly unlikely to churn to another local network because of the overhead costs in reprinting promotional material and the confusion

which can be caused to customers calling them. Large corporate customers, of course, are also the focus of the most competition from competing local network operators, with most capital city CBD's having three or more alternative networks deployed. Telstra's special process relate to that part of the Telstra direct connect customer base which is being most heavily targeted by Telstra's local network competitors.

Technical Standards About Interconnection

- 7.48 The deficiencies of industry self-regulation in addressing more controversial technical numbering issues has been even greater in New Zealand, where there is no regulatory framework within which industry self regulation takes place. The New Zealand Ministerial Inquiry concludes in its draft report that:

*"It is apparent, ...that a number of initiatives have been hindered by lengthy disputes and the absence of a commonly agreed set of principles governing matters such as interconnection, wholesale of telecommunications services and allocation of numbers."*¹⁸⁰

- 7.49 Other overseas regulatory regimes also adopt self regulatory process. However, industry decision making, as the UK regulator has recognised, often will be more effective with a "co-regulatory" rather than a "self regulatory" approach, which is defined as follows:

*"Co-regulation: the regulator and stake holders worked together with, typically, the regulator setting the framework for stakeholders to work within. Enforcement powers exist but are rarely used in practice."*¹⁸¹

- 7.50 In the absence of regulatory requirements which create the requirement and opportunity for industry self regulation the incumbent will proceed in the absence of industry consensus to implement technical solutions which suit their interests. Whether or not incumbent have an anti-competitive purpose, the practical affect of their conduct is to adversely impact competition.
- 7.51 Industry self regulation through the ACIF on technical and operational matters has worked best when the relevant regulator makes the threshold policy decision and provides guidelines for the ACIF process. For example, the ACIF members probably

¹⁸⁰ Draft Report at p1.

¹⁸¹ There's a very recent paper on self regulation on the OFTEL website from July 2000.

would not have reached agreement on which services should be subject to preselection. however, once the ACA had made its determination, the ACIF was able to proceed to develop the churn codes. Similarly, the ACIF code development for the technical and operational aspects of local loop unbundling has proven to be slow moving and difficult. However, once the ACCC stated publicly that Telstra risk being in breach of the Standard Access Obligations and Part XIB it launched its own xDSL services in advance of LLU, momentum increased in the ACIF processes towards resolution of the codes.

- 7.52 Cable & Wireless Optus proposes that the ACCC have power to issue directions and guidance to industry self regulatory bodies on the basic policy requirements of technical and operational matters on which those bodies are developing codes where those codes could have competition policy implications. We note that the New Zealand Ministerial Inquiry has recommended the proposed New Zealand telecommunications regulator have a general direction power over the proposed industry self regulatory body (which will be broadly similar to the ACIF).

8. Regulatory Institutions and Administrative Processes

This chapter addresses the following issues identified by the Productivity Commission:

- *Are there inconsistencies in the regulations, their objectives or implementation between themselves and their administration?*
- *Is there adequate co-ordination between the two principal regulatory bodies?*
- *Is the division of responsibilities between the two origins appropriate? Is there any significant duplication and overlap of responsibilities or services? Could the division of responsibilities be improved?*
- *Are administrative processes timely, transparent and accountable?*
- *Are the review processes being used “strategically” by players in the industry and, if so, how should this be handled?*

Administrative Agencies

8.1 Vesting the ACCC with primary responsibility for telecommunications specific regulation has been one of the great successes of the 1997 regulatory regime because this approach:

- (a) avoids the jurisdictional overlap between sector specific regulators making decisions with competition implications and the general competition regulator;
- (b) applies the more robust approach and greater resources of a larger, stronger regulator to administering and enforcing telecommunications specific regulation; and
- (c) has schooled the ACCC in the dynamics of the communications industry, which assists the Commission in its merger jurisdiction as the communications industry is a major source of large scale mergers.

8.2 However, the approach of giving the ACCC responsibility for competition-related aspects of industry specific regulations was not fully realised in the design of the 1997 regulatory regime. Both the Australian Communications Authority and the Department of Communications retained key responsibilities over regulatory issues

which have competition implications or which potentially constrained the ACCC's ability to execute its responsibilities.

Overlap with DOCITA

- 8.3 The Minister for Communications retains power under the Telstra Corporation Act to determine the price cap arrangements which will apply to specified Telstra retail services. The price capping restraints which historically have applied to Telstra limit its ability to rebalance its fixed line rental charges. This can create an "access deficit" if the retail line rental charges are below the fixed costs of installing and maintaining the access line.
- 8.4 Incumbents usually seek to recover the access deficit charge through interconnection charges, on the basis that all traffic carried over the access line should contribute to recoupment of the access deficit.
- 8.5 It is generally accepted that access deficit contributions are inefficient and distortionary. The current EU Indication Direction requires national regulatory authorities to abolish access deficits:

*"It follows from the principle of cost orientation that since the provision of interconnection does not lead to any increase of costs in the dedicated components of the local loop of the terminating network, the calculation of interconnection charges should not include any component relating to the direct cost of the dedicated components of the local loop ...Access deficit contribution schemes always provide inefficient investment signals, and raise overall industry costs. They are also administratively cumbersome and lack transparency."*¹⁸²

- 8.6 The existence and size of the access deficit is the largest single issue in setting interconnection charges. The ACCC's July 2000 decision on Telstra's proposed access undertaking recommended a charge of 1.8 cents per minute, half of which the ACCC ascribed as being a contribution to Telstra's access deficit. The total access deficit was calculated by the ACCC at over \$1 billion. The ACCC clearly identified the price capping regulation applied by the Minister as the source of this "distortion".

¹⁸² European Commission recommendation 98/195/EC of January 8 1998 on interconnection in a liberalised telecommunications market (Part 1 - Interconnection pricing).

- 8.7 While the ACCC may have considered the access deficit to be inefficient, it had no choice but to require competitors to make an access deficit contribution because the ACCC had no direct power to permit Telstra to rebalance. The Minister, at the urging of competitors and the ACCC, has allowed Telstra a modest degree of scope to rebalance in the latest price capping rules which commenced from 1 January 2000. Telstra is no longer subject to a CPI minus 1 price cap but can increase line rentals by CPI minus zero. At that rate, Telstra claims it will take a number of years before Telstra can sufficiently rebalance to eliminate the access deficit.
- 8.8 The continued restrictions on Telstra rebalancing causes consumers large welfare losses due to the distortion in allocative efficiency. Usage prices for long distance calling are above cost due to the access deficit “wedge”. CWO estimates that the allocative efficiency loss in the national long distance market is at least \$30 million per year.¹⁸³
- 8.9 The approach overseas is to vest in one regulator the responsibility for retail price controls and for setting interconnection prices. This allows an integrated decision to be made about the appropriate balance between regulation of end user prices and subsidies through interconnection charges.
- 8.10 Uniting these responsibilities in one regulator will not necessarily mean that consumers face a “rebalancing shock”. The UK regulator, OFTEL, has followed an approach of progressively permitting BT to rebalance, although at a faster rate than the Australian approach. OFTEL also has combined the progressive withdrawal of price caps with requirements for BT to introduce pricing schemes for low volume users. This approach provides a more efficient, targeted response to social needs than a broad based price cap.
- 8.11 For these reasons, CWO proposes that DOCITA’s responsibilities for price capping should be transferred to the ACCC.

Overlap with the ACA

- 8.12 While the ACA’s main responsibilities are technical and radiocommunications regulation, it also has responsibility for major matters of economic and competition regulation, including:

¹⁸³ This is based on elasticity of demand of point 8 for national long distance services.

- (a) determination of the universal service obligation costs and contributions;
 - (b) determination of the services which should be subject to preselection; and
 - (c) determination of the technical solution for number portability.
- 8.13 The ACA's calculation of the USO costs is a very similar exercise to the ACCC's calculation of interconnection costs. Both involve an analysis of Telstra's local network costs. These separate costing exercises not only duplicate effort, but there are obvious risks of inconsistencies in approach, assumptions and calculation. Further, there is also the risk of the incumbent providing different information to each regulator and "gaming" the exercises undertaken by each regulator.
- 8.14 Decisions made by the ACA on USO also will impact the ACCC's decisions on access pricing, and vice versa. The access deficit potentially applies to each access line, both in net loss areas and other areas. The ACA must set off the access deficit contribution required by the ACCC to avoid the incumbent double recovering. The same applies to the ACCC ensuring the ADC does not cover losses properly recouped through the USO scheme.
- 8.15 Further, the decisions made by the ACA and the ACCC each will be impacted by the decision made by DOCITA on retail price controls. The more restrictive the retail price controls are, the larger the access deficit and the USO costs may be.
- 8.16 The risks of dissonance are increased by three regulators moving to different time frames. The ACCC has set access charges to the end of 2001. The retail price controls expire on July 2001. The ACA is presently calculating USO costs which will apply to the end of 2003, without knowing the level of access deficit which the ACCC will permit Telstra to recover and how much more rebalancing by Telstra Docita will allow.
- 8.17 For these reasons, CWO proposes that responsibility for calculating the costs of the USO should be consolidated in the ACCC with the access pricing responsibilities.
- 8.18 Decisions the ACA makes about issues such as preselection and the technical solution for number portability have clear competition implications. Preselection decisions, and individual exemptions granted to carriers, determine in effect, which networks and services must be operated on an "open access" basis. Preselection is a customer interface mechanism for utilising services which the ACCC declares under Part XIC.

- 8.19 The drafters of the 1997 regulatory regime recognised that the ACA's decisions on numbering could have significant competition implications. Accordingly, the ACCC was given direction making powers in respect of number portability. This ensured that the ACCC made the threshold competition-related policy decisions and the ACA's role was limited to the technical issues of implementation.
- 8.20 CWO proposes that this model should be adopted more broadly across the ACA's functions. The ACCC should be given general powers to direct the ACA on matters which the ACCC considers will impact competition. For example, the ACCC could determine that an Intelligent Network solution or number portability is in the long term interests of end users and direct the ACA to require an IN solution through its numbering administration powers. The ACCC came as close as it could to specifying an IN solution in its Local Number Portability Direction to the ACA by acquiring the long term solution to provide equivalent functionality. Despite this direction and the ACCC's strong hints about the appropriate solution, the ACA embarked on a lengthy investigation of its own about a technical solution for local number portability, which further delayed the transition from the inefficient call forwarding solution currently offered by Telstra.

Need to Access Costs and Benefits of Administrative Decision-Making Processes

- 8.21 Traditional models of administrative decision-making and administrative and judicial review may be too inefficient to cope with the pace of developments within communications markets. As identified by the Issues Paper, there are risks of "gaming" of administrative and review processes by an incumbent to delay market entry. However, even if the risks of "gaming" can be addressed, there are still more fundamental issues about the sustainability of current administrative and review models. The stress on these processes, and on the regulatory agencies which administer them, will grow as technology and market developments increase the pace of change within communications markets.
- 8.22 The costs of inefficient administrative decision-making processes are illustrated by the ACCC's consideration of Telstra's access undertaking. The ACCC has stated that its final decision to reduce the access price of 4.9 cents per minute sought by Telstra to 1.7 cents per minute will deliver consumers annualised savings of \$250 million.¹⁸⁴ Telstra lodged its original access undertaking in late 1997. The ACCC's process of considering and rejecting that access undertaking and the subsequent undertaking took

¹⁸⁴ ACCC, media release, *ACCC Issues Final Access Undertaking Decision* (10 July 2000).

over two and a half years. During this time, most carriers continued to pay access charges to Telstra which were at or near the level requested by Telstra in its access undertakings. As a result, the total consumer benefits “forgone” during the ACCC’s review could amount to over \$650 million.

Effect of Decision Making Delays on the Regulatory Framework

Other examples of the time taken for decision making in the current regulatory framework are:

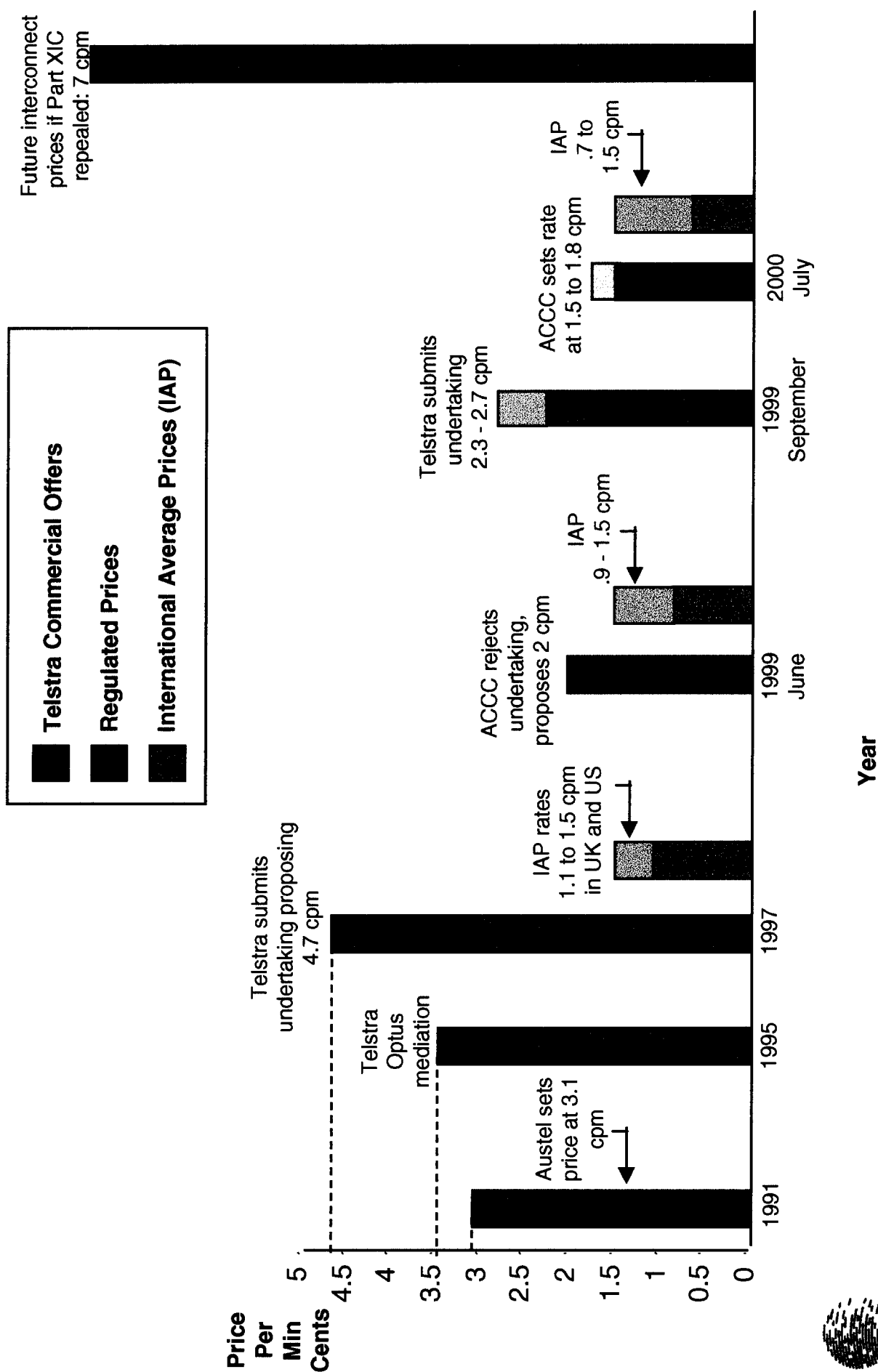
- (a) Decisions about the declaration of services typically take 6 to 9 months. Data services were declared in October 1998 – almost a year after the enquiry into declaring the service was announced on 22 December 1997. With local loop unbundling, the enquiry commenced in March 1998 but it was not until July 1999 that local loop unbundling was declared. During this period, the access services either are unavailable, such as in the case of local-loop unbundling, or are supplied on terms, principally by the incumbent, which are usually substantially less favourable than the terms which would apply under Part XIC.
- (b) Declaration of a service, of course, is not the end of the process. Following declaration of the service access seekers must open negotiations with access providers and can usually only seek intervention by the regulator through arbitration after they have demonstrated that those commercial negotiations have failed. CWO starting making attempts to negotiate arrangements for LLU the day the service was declared (as evidenced by its requests for collocation space in local exchanges), but only received the first draft of Telstra’s proposed contract, including terms from Telstra in February.
- (c) Arbitrations by the ACCC are taking 6 months or more.
- (d) Decision making by the ACCC and the ACA on the principles of local number portability and the appropriate technical solution together took over two years. The ACCC released for comment draft Directions to the ACA on number portability on 30 May 1997 and gave a final direction was given to the ACA on 22 September 1997. The ACA did not release its Equivalent Service Criteria for Local Number Portability until nearly two years later, on 8 July 1999.

- (e) Investigations of complaints under Part XIB have taken from 9 to 27 months before the issues were resolved.¹⁸⁵ The amendments to Part XIB may expedite the ACCC's investigation of complaints in the future, although CWO continues to have serious concerns about the workability of Part XIB, as discussed in Chapter 5.

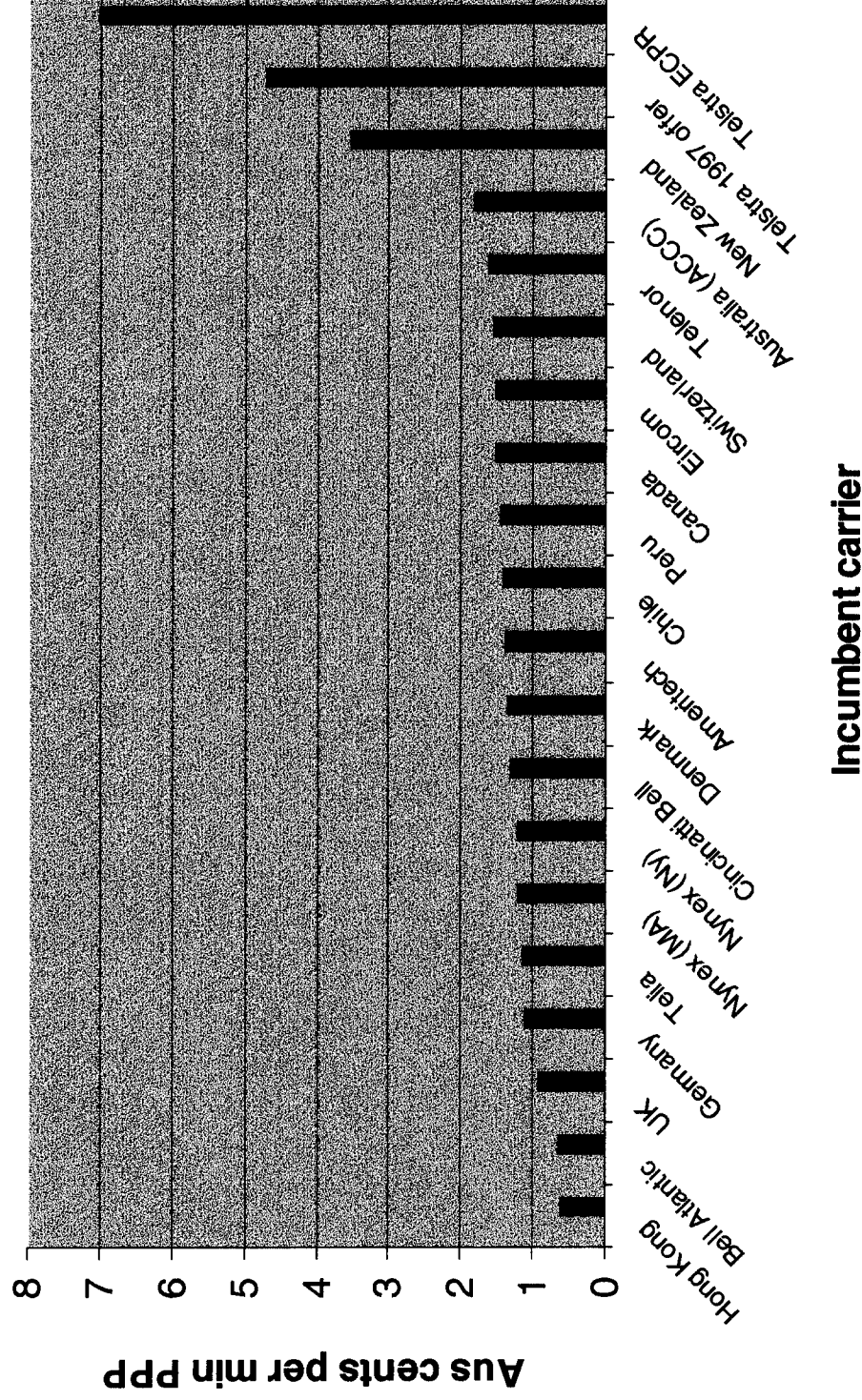
Cable and Wireless Optus will provide the Commission with further submissions on possible approaches to administrative decision making at a later time.

¹⁸⁵ See chapter 5 of this submission for further details.

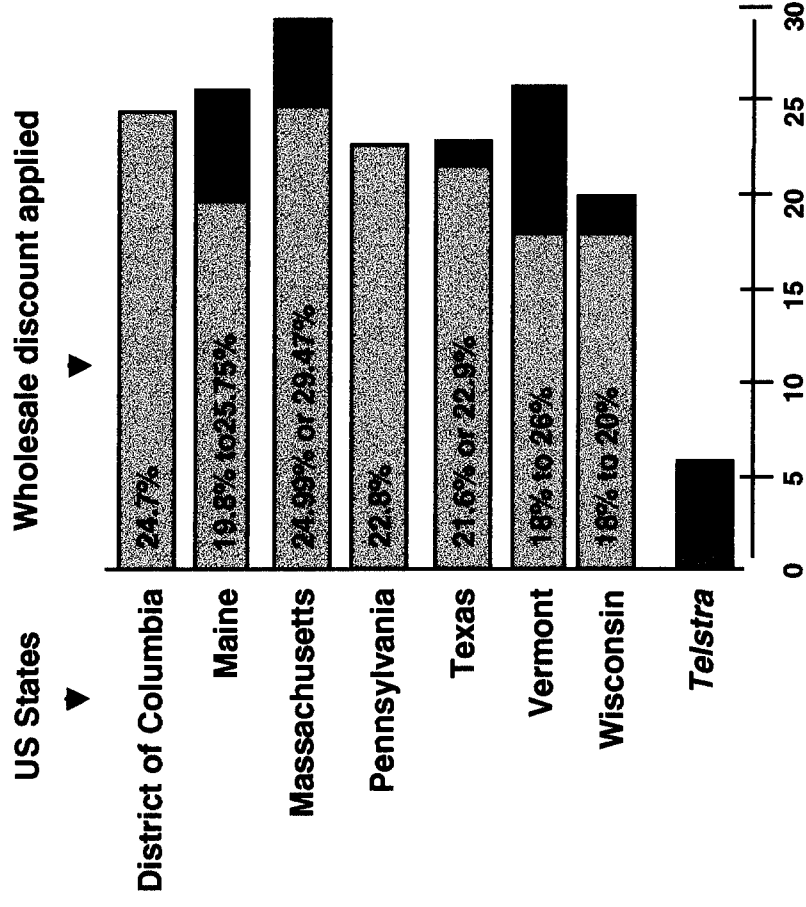
Example 1 - Benefits of sector specific regulation re interconnect pricing



Example 2 - Benefits of regulation of interconnect when compared to other jurisdictions



Example 1 - The ACCC has yet to set a reasonable avoidable cost discount for local call resale



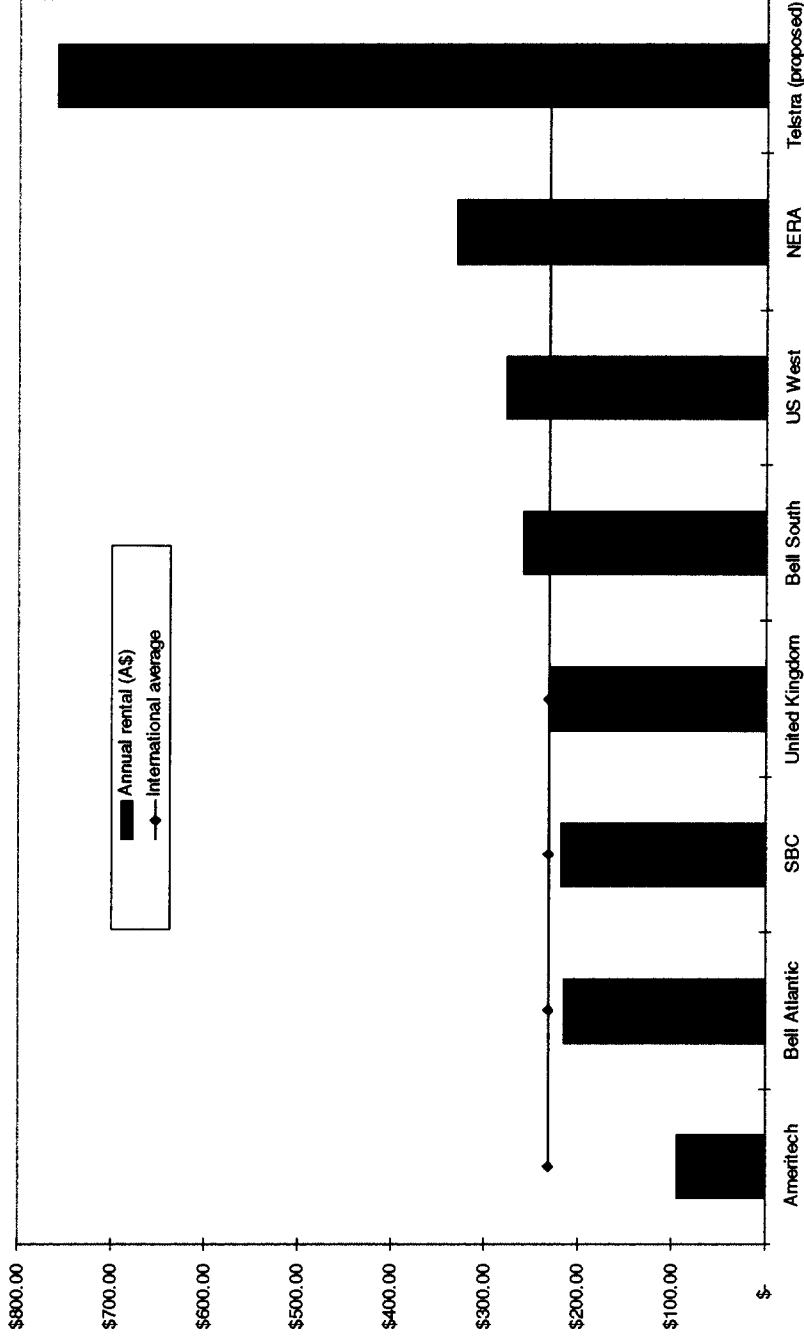
Telstra's current resale discount off retail prices is 7 %.

The ACCC is still deciding a reasonable wholesale price.



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Example 2 - Telstra's proposed prices for unbundled local loop are significantly higher than in other countries



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Convergence and Telstra's market share compared to other telephony incumbents

Market	Dominance or substantial market share		
	Telstra	UK	US
Local network services	✓ 95%	✓	✓
Long distance	✓ 75%	✓	✗
International	✓ 48%	✗	✗
Broadband services	✓	✗	✗
Data/internet services	✓	✗	✗
Subscription TV	✓ 50%	✗	✗
Mobiles	✓ 48%	✗	✗



Extending incumbent dominance

Country	Dominant ISP	Incumbent Telephony Co. Owner
Australia	Big Pond	Telstra
Canada	Sympatico	Bell Canada
France	Wanadoo	France Telecom
Germany	T-Online	Deutsche Telecom
Hong Kong	Netvigator	Hong Kong Telecom
New Zealand	Xtra	Telecom New Zealand
Spain	Infovia	Telefonica
Sweden	Tele2	Tele2
Taiwan	HiNet	Chungwa Telecom
<i>Source: ITU: Challenges to the Network – Internet for Development, p 131</i>		



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COMPARATIVE REGULATION OF INCUMBENTS				
Requirement	US Telecoms	UK Telecoms	Australian Telecoms	
Access to unbundled network elements	✓	✓	✓	
Incremental cost access to local loop	✓	✓	✓	
Electronic access to support systems	✓	✓ ¹	✗	
Restricted use of competitor's information	✓	✓	✓ [*]	
Arms length dealing requirement between retail and wholesale business	✓	✓	✓ ²	
Prior notification of system changes and agreement on common standards	✓	✓	✗	
Reporting on performance against non-discriminatory standards	✓	✓	✗ but could be ✓ ³	
Regulatory Accounting	✓	✓	✓	
Public disclosure of costs	✓	✓	✗ but could be ✓ ^{2*}	

