example, the government has appointed a telecommunications (competition provisions) appeal panel. As described in the press release when it was set up, it is:

> ... the first ever sector-specific appeal board on competition matters in Hong Kong. It provides an independent avenue for aggrieved parties to review the decisions of the Telecommunications Authority on competition matters which may involve wider competition issues, in addition to telecommunications policy.

Recently the Telecommunications Authority has also published a consultation paper on specifying the merger and acquisition regulation in the industry, first starting with carrier licensees (network operators). It may consider extending the regulation to non-carrier licensees (mainly service providers) later if there is serious concern.

A compromise is not to have a comprehensive competition law, but one against price fixing and bid rigging. That is, a non-comprehensive but also non-sector-specific law against the most notorious forms of anti-competitive behaviour. Even that may not receive sympathy from the Government in the present economic climate. It will be a long haul.

Competition aspects of e-commerce

The following is an edited version of a presentation given by Commissioner Dr David Cousins to the 30th Annual Conference of Economists held on 23–26 September 2001 in Perth.

Introduction[1]

As e-commerce develops it is increasing competitive opportunities for business and it is likely that it will eventually, and markedly, affect how businesses operate. This is despite its not yet delivering the returns that investors once hoped for.

It is estimated that widespread adoption of e-commerce in Australia could increase national output by 2.7 per cent and enhance consumption by about $10 billion within the next decade.[2] Studies also indicate that as well as increasing competition from international or domestic online sources, e-commerce will enable businesses to become more efficient in day-to-day operations.

But the development of e-commerce is not without its difficulties. These include consumer confidence, domain naming rights, recognition of digital signatures, treatment of intellectual property rights, development of financial payment systems, and application of competition laws. The Internet knows no borders so global and domestic solutions must be simultaneously applied.

From a competition regulator's perspective, the new economy raises exactly the same issues as the offline world, but in new contexts. Nevertheless, in dealing with online commerce regulators will be increasingly confronted with some of the more controversial issues in competition law.

Competitive analysis of network effects is a notable example. As usual, regulators will need to decide if competitors' responses — both online and offline — to the threat of competition are anti-competitive. As network effects or externalities may be a key characteristic of many e-commerce activities, the positive and negative competitive aspects of network effects and how they may be taken into account within the framework of the Trade Practices Act need to be addressed.

A regulator's ability to assess competitive conduct issues in relation to an activity characterised by network effects, particularly in new economy markets, has attracted considerable debate.

I want to address the arguments that:

- competition regulators over exaggerate the potential market power issues arising in relation to network effects. Some commentators think this may harm and stifle pro-competitive ventures.[3]

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[1] I would like to acknowledge Ms Vanessa Holliday's major contribution to this paper. Vanessa is an assistant director in the ACCC's E-commerce Unit, Compliance Branch.

[2] NOIE, *E-commerce Beyond 2000*, Final Report p. xi.

[3] Dr Cento Veljanovski, 'EC Antitrust & the New Economy, Is the EC Commission's View of the Network Economy Right?' *European Competition Law Review*, 2001, vol. 9 writes: 'The application of network effects theory to new economy mergers is overblown and lacks supporting evidence.'

- in new economy markets, the potential threat of new entry is particularly strong because technology is changing rapidly and market power that may come from network effects will be short-lived.[4]
- competition regulators confuse network owners' competitive conduct in offering lower prices and otherwise encourage access to, and participation in their networks with predatory behaviour.[5]

I believe such concerns are overstated. Network effects raise both pro and anti-competitive considerations which need to be balanced. This has to be faced as new types of networks form, but the danger of simply assuming that a network will be pro-competitive are just as great as that of stifling development of new e-commerce networks.

What is a network effect?

A network is a series of connected nodes in which the network pieces are complementary.[6] Traditional examples of networks include telephone networks, railway lines and gas pipelines. These traditional networks are largely physical ones directly connecting users. Typically, their value depends on how many use it or the nodes it connects to.[7] People want to join a telephone network that already connects many other people. Conversely, one with few connections is likely to attract few customers and fail. In this sense, networks may be said to exhibit demand-side economies of scale.

Many products and services which, although not physical networks in the same sense as a telephone service, exhibit some of the same characteristics as physical networks. Therefore much of the theory developed around physical networks, particularly the implications of demand-side economies of scale can be applied to these industries.

This is particularly true for the Internet industry and e-commerce. As Shapiro and Varian state:

> ... there is a central difference between the old and new economies: the old industrial economy was driven by economies of scale; the new information economy is driven by the economies of networks.[8]

Similarly, the former Chairman of the Federal Trade Commission, Robert Pitofsky, pointed out that an essential feature of the new economy is increased dependence on products and services that are pieces of intellectual property such as computer software, faxes and Internet services. Such products and services more frequently exhibit network effects as the demand for the product is related to its use by others.[9]

Where some new economy networks differ from traditional networks is that they tend to be virtual in nature rather than physical. Some of these high technology networks are in fact physical networks — for example networks of ATM machines and other financial electronic payments systems, and the Internet itself. However, others such as a network of computer users are virtual in that users/nodes are not physically linked, but form a network of complementary products. For example, for Microsoft,

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4 Richard Posner, 'Antitrust in the New Economy', *Antitrust Law Journal*, [vol. 68, 2001] pp. 925–943. Posner takes the view that the law is 'supple' enough to deal with the new economy, but that the rapid changes in technology make it difficult to enforce. See also D Teece and M Coleman, 'The meaning of monopoly: antitrust analysis in high-technology industries', The Antitrust Bulletin, Fall–Winter 1998 pp. 801–857 at 804 states 'Competition in high technology industries is fierce, frequently characterised by incremental innovation, punctuated by major paradigm shifts. These shifts frequently cause incumbents' positions to be completely overturned'.

5 See N Economides, *Competition and Vertical Integration*, Paper delivered at conference, Competition, Convergence and the Microsoft Monopoly: The Future of the Digital Marketplace, organised by the Progress and Freedom Foundation, Washington DC, 4 Feb, 1998 at p. 7 which suggests commercial rather than competition reasons for Microsoft's entry into the Internet browser market. See also D Teece and M Coleman, *op cit.*, p. 839 which discusses reasons for adopting high or low prices more generally in high technology industries.

6 N Economides, 'The Economics of Networks', *International Journal of Industrial Organization*, vol. 14, No. 2 (March 1996).

7 For more detailed explanation of network effects see J Tirole, *The Theory of Industrial Organisation*, MIT Press, 1989. Also see G Werden, 'Network Effects and Conditions of Entry: Lessons from the Microsoft Case', *Antitrust Law Journal*, 69(1) 2001 p. 89; C Shapiro and H Varian, *Information Rules*, Harvard Business Press, 1999.

8 C Shapiro and H Varian, op cit., p. 173.

9 Robert Pitofsky, *Antitrust and Intellectual Property: Unresolved Issues at the Heart of the New Economy*, speech delivered at the Antitrust, Technology and Intellectual Property Conference, 2 March, 2001, available at <http://www.ftc.gov/speeches/pitofsky/ipf301.htm>.

the operating systems market was said to exhibit network effects because as more people used the Windows operating system, it became more valuable as it attracted more software applications. This is sometimes referred to as an indirect network effect.[10]

Such networks tend to be based on intellectual property rights and know-how, rather than physical assets. They are more likely to develop through collaborations between independent bodies than old economy networks which, at least in the Australian context, originally arose from statutory monopolies. Further, because they are virtual rather than physical, competition can develop between them more readily than with physical networks which were largely restricted to a geographic area.

What are the competitive issues surrounding network effects?

Network effects may include both competitive and anti-competitive elements.

One school of thought suggests that competition regulators should be concerned about network effects because network industries are likely to exhibit high barriers to entry.[11] It is difficult for a new entrant to attract customers because, unless they can connect the majority of customers at once, they are unlikely to succeed. When infrastructure investment costs are high and supply-side economies of scale are also present, the difficulties faced by potential new entrants are exacerbated.[12]

When network effects are considered to be particularly strong, barriers to entry will be high, and it is argued the market may tend towards a winner-take-all solution with one network becoming dominant and the others failing because of positive feedback. That is, the more a particular network is used, the more attractive it becomes to existing and new users. This is sometimes referred to as the tipping or snowballing effect.[13]

Because the law of diminishing returns may not apply to the same extent as for industries with supply-side economies of scale, a dominant player may emerge, rather than the traditional oligopolistic outcomes more often observed in traditional industries.[14]

When market power is established, there are three main categories of behaviour that may raise competition issues.

Higher charges

There may be concerns that an incumbent will exercise market power by charging higher rates for connection and usage of its network.

Restricting access

Exclusionary behaviour by the incumbent including refusal to provide access to users or potential competitors or providing access on a discriminatory basis may raise competition issues. If the incumbent is vertically integrated into upstream or downstream markets to the network, it may have the incentive to refuse access to its competitors in this area. This may affect competition in those markets. Further, refusal to provide access or interconnection services to a competing network may stifle the development of efficient, innovative services, within the network market itself.[15]

Inclusive behaviour

Inclusive behaviour by the incumbent could affect competition. This could include exclusivity clauses in access arrangements, predatory pricing or other incentives to encourage exclusivity or customer loyalty, and collaborative arrangements with potential competitors which stifle their ability to fully compete against the incumbent network owner.[16]

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[10] Michael L Katz and Carl Shapiro, 'Network Externalities, Competition and Compatibility', *The American Economic Review*, June 1985, vol. 75 no. 3, pp. 424–440 at 424.

[11] See Daniel L Rubinfeld, *Antitrust Enforcement in Dynamic Network Industries*, *The Antitrust Bulletin*, Fall–Winter 1998 p. 862.

[12] C Shapiro and H Varian, op cit. p. 179.

[13] Note however that this is not always the case. It may be that consumer preferences will support different products or standards in a particular area. See Rubinfeld, op cit., who gives the example of co-existence of Sega, Nintendo and Sony.

[14] C Shapiro and H Varian, *op cit.* p. 180 states that 'unlike the supply-side economies of scale, demand-side economies of scale don't dissipate when the market gets large enough: if everyone else uses Microsoft Word, that's even more reason for you to use it too.'

[15] C Shapiro, 'Exclusivity in Network Industries', *George Mason University Law Review*. [vol. 7:3 1999] at p. 10. See also Daniel L Rubinfeld, op cit. at 862–3 which suggests that a firm may have an incentive to prevent products of rivals achieving compatibility, which may restrict competition even when other products are of a comparable or even higher standard.

[16] Albert A. Foer, 'E-Commerce Meets Antitrust: A Primer', *Journal of Public Policy & Marketing*, vol 20(1) Spring 2001, 51–63; see also D Balto & R Pitofsky, 'Antitrust and high-tech industries: the new challenge', *The Antitrust Bulletin*, Fall–Winter 1998 p. 595 states: 'antitrust analysis should

Such conduct may result in competitive damage in the market for the network itself, and in particular increase barriers to entry.

Proponents of this school of thought may be particularly concerned about actions that promote exclusivity and increase switching costs as this may delay or frustrate the emergence of a new product or technology to threaten an incumbent's position. For example, one commentator has argued that by requiring users to enter into exclusivity contracts or membership rules, an incumbent may successfully deter the entry of technically superior networks — which may be of particular concern to the long term development of e-commerce. It is argued that if network externalities are present — that is, the value of the network to users is related not only to its own use, but the use of others — then the cost of switching is higher than in traditional markets.[17] Another example is the development of non-compatible complementary products which may increase barriers to entry, as a new entrant will need to duplicate more complementary products to compete.

However, when networks are open access, non-exclusive and have operating rules that are objective and non-discriminatory, competitive issues are less likely to arise.

The alternate view is that networks offer obvious economic efficiencies and social benefits which will outweigh these potential concerns.

Some commentators argue that the battle between firms to win a particular market is just as intense as normal competition[18] and because of this, it is unlikely that networks will attempt to exercise market power by increasing prices.

It is also argued that negative feedback can result in the loss of a market as easily as positive feedback enabled the capture of a market. So, it is argued that regulators should not fear that incumbents will act in an anti-competitive manner in the future, once their network is established because then they would lose the market to a new entrant.[19]

The impact of consumer perception is thus considered to be extremely important, particularly in rapidly developing high technology markets. Some argue that because network effects are largely driven by consumer expectation of what other consumers will do, it is important for an incumbent network to keep prices low. Otherwise, it is argued, consumers will expect that others will leave the network, particularly in high technology areas where there is already likely to be some expectation that a new technology will emerge to replace the existing network and in effect this becomes a self fulfilling prophecy.[20]

It is argued that networks allow users to be much more efficient and this may outweigh the potential risk of competitive detriment.[21] Also, networks may fulfil a wider social function when they emerge concomitantly with new products or services — for example, a B2B electronic marketplace or a new computer operating system — in that it may enable whole new areas of opportunity for commercial activities to grow. An example of this is the development of the MP3 peer-to-peer file swapping service where the service has generated interest in the development of other peer-to-peer products — reported to include a TV show swapping service to be released by Sony. Such systems can alter market structures quite drastically in the long-term.

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proceed very cautiously before requiring networks to open themselves to potential competitors. Not only may compulsory access unfairly penalise a firm or group of firms that has achieved success on the merits, but it may also reduce the incentives of would-be challengers to build a better network.'

17 See C Shapiro, 'Exclusivity in Network Industries', *George Mason University Law Review* [vol. 7:3 1999] pp. 1–11.

18 N Economides, 'The impact of the Internet on Financial Markets', *Journal of Financial Transformation*, vol. 1 no. 1, 2001 pp. 8–13.

19 McKenzie & Lee, 'How Digital Economies Revise Antitrust Thinking', *The Antitrust Bulletin*, Summer 2001 pp. 253–298; Anton & Yao, 'Standard Setting Consortia, Antitrust, and High Technology Industries', *Antitrust Law Journal*, vol. 64 [1995] at 258; C Veljanovski, *Trade Practices Law in the Network Economy*, paper delivered at Trade Practices Committee Workshop, August 2001 at 13.

20 McKenzie & Lee, *op cit.* p. 270.

21 See D Teece and M Coleman, op cit., at pp. 814–5. It is suggested that the benefits of having one platform may be greater than the costs from less diverse platforms. Benefits may include access to a greater range of complementary products and less cost involved in upgrading. See also Januz Ordover and Robert Willig, 'Antitrust for High-Technology Industries: Assessing Research Joint Ventures and Mergers', *Journal of Law & Economics*, vol. XXVIII(2), May 1988 at p. 312 which suggests that as it is uncertain whether concentration assists or restricts technological advancement, the application of anti-trust laws to restrict concentration may cause harm.

Proponents of this school of thought suggest that regulators are unable to distinguish between anti-competitive and pro-competitive behaviour by networks and are more likely to cause harm than good if they try as this may stifle development.

They argue that concerns about perceived high prices for network access are misguided, as they fail to take into account that prices may be set at levels necessary to fund investment to efficiently capture the positive externalities associated with networks.[22] It is in fact suggested that caution should be taken in setting prices too low, as this may encourage free riding and discourage future network investment.[23]

Further, it is argued that exclusionary conduct of an anti-competitive nature is unlikely because of the threat of future competition, and the effects of inclusive conduct is likely to be pro-competitive as it encourages use of the network.

In summary, it seems network effects, like supply-side economies of scale, are a two-edged sword — they may provide significant efficiencies but also tend toward a dominant position. This may or may not be of a transitory nature and may put them in a position to exercise market power in various ways — most notably stifling the potential development of competing networks.

Application of the TPA to products and services exhibiting network effects

The Trade Practices Act does not prohibit products or services that exhibit network effects as such, or prevent a network growing to a position of dominance because of its popularity but it may apply to:

- conduct of an incumbent network owner that is likely to have a substantial anti-competitive effect or purpose; or
- collaborations, mergers or joint ventures between network owners, or network owners and owners of complementary products likely to have a substantial anti-competitive effect or purpose.

The Australian legislative framework provides for a range of different regulatory responses to such issues, depending on the nature of the goods or services involved and the nature of the conduct. The main regulatory tools are Part 111A of the Act (Access declarations and undertakings), industry specific access regimes, and Part IV of the Act (anti-competitive conduct rules including mergers and acquisitions).

Regulating essential facilities

The Act provides that networks that exhibit monopoly characteristics may be dealt with pursuant to Part IIIA (access regulation) or an industry-specific access regime.

An access regime approach is used mainly to address concerns that a monopoly network operator may refuse access to users (i.e. exclusionary behaviour). It is generally applied when the underlying network consists of a facility that is uneconomic and therefore undesirable to duplicate, but when various competitive services could be offered at other functional levels, or part of the network offered by a competitor. Therefore, access regulation is used to facilitate competition at those other functional levels.

Price controls are also sometimes used to protect end-product users from monopolistic practices until such time that effective competition can be introduced.[24]

Through this form of regulation, such networks are encouraged to develop to enable the efficiencies and public benefits of the network to be achieved, but also provide safeguards against anti-competitive behaviour.

Part IIIA — access regulation

Some types of networks, such as rail or road networks may be regulated as essential facility services pursuant to Part IIIA of the Act. Part IIIA provides for the declaration of services provided by means of a facility by the National Competition Council in limited circumstances.[25]

The main criteria include whether:[26]

- it would be uneconomic for anyone to develop another facility to provide the service;

[22] See J Gans & S King, *The Role of Interchange Fees in Credit Card Associations: Competitive Analysis and Regulatory Issues*, April 2001.

[23] See C Veljanovski, op cit., at p. 25.

[24] Similarly, the *Prices Surveillance Act 1983* may also be relevant in monitoring the price of goods and services.

[25] Alternately, owners of a service may submit an access undertaking to the ACCC for approval (s. 44ZZA). Also, when there is an effective state or territory-based access regime in place in relation to a facility, a service cannot be declared but is regulated under the framework of the relevant state or territory regime (s. 44N).

[26] Trade Practices Act s. 44H.

- access or increased access would promote competition in at least one market in Australia, other than the market for the service;
- the size of the facility or its importance to trade or commerce means it is nationally significant;
- access can be provided without undue risk to health and safety; and
- providing access would be contrary to public interest.

If a service is declared under Part IIIA or services are subject to an access undertaking, a party seeking access to the service who is unable to reach agreement on the terms and conditions of access may apply to the Commission for arbitration. This provides for a light-handed approach under which parties seeking access must first attempt commercial negotiations before seeking regulatory intervention.

While not expressly stated, whether a facility is uneconomic to duplicate depends on network effects as well as supply-side economies of scale. For airport regulation the Commission has considered that the concept of economic duplica-tion means not only the supply-side economies of scale associated with airport infrastructure investment (which is not to say that these are not significant in this area), but also the complementary nature of airport facilities.[27] That is, the value of an airport facility also depends on how many users, routes and connecting services use the facility. The more routes, the more likely it is that the airport will attract more connecting flights and therefore more users.

Nevertheless, not all products or services that exhibit network effects will fall within the scope of Part IIIA. While the term facility is not expressly defined within the Act, it has been suggested that it means a physical asset or set of assets that exhibit features of a natural monopoly.[28] When, as for some high technology virtual networks, it is the intellectual property and network effects that may be the major cost, rather than duplication of the physical assets, it could be debateable whether the facility is uneconomic to duplicate. And it will be a question of fact in each case whether the facility is of national significance.

Further, not all network competition issues will necessarily fall within the scope of access regulation. Part IIIA does not apply unless it would promote competition in some other market — usually an upstream or downstream one. But it may not provide a solution when the owner of an essential service exercises market power when other markets are not effected. Also, it does not apply in assessing collaborative arrangements or mergers between networks.

Industry-specific access regulation

In addition to the general access provisions in Part IIIA, there are some industry-specific access regimes that are used to regulate access to physical networks including telecommunications, gas, electricity and airport facilities. Industry-specific regulation has generally been introduced for former statutory monopoly utility networks.

The current industry-specific regulatory framework for the telecommunications industry was introduced in 1997. It recognises the high entry barriers for telecommunications markets because of large sunk costs, the legacy of a historic statutory monopoly and network effects arising from the desire for any-to-any connectivity which reduce the likelihood of new entry.[29] These factors are aggravated by consumer switching costs and vertical integration by the incumbent, Telstra, into downstream markets.

Part XIC of the TPA allows the Commission to declare certain telecommunications services. When services are declared, the access provider must make access available to other service providers and take all reasonable steps to ensure that technical and operational quality is equal to the quality of service enjoyed by the access provider.[30] The access provider must provide interconnection on request. The Commission arbitrates access disputes between parties. These may be on terms and conditions of access and interconnection, as well as on pricing.

Unlike the general access regulation model contained in Part IIIA, the regulatory framework also provides for price controls over some retail services including local calls and line rental charges. The objective of

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[27] See ACCC, *s. 192 of the Airport Act — Declaration of Airport Services Draft Guide*, October 1998.

[28] See *Re Sydney International Airport* [2000] ATPR 41-754.

[29] Productivity Commission Draft Report, *Telecommunications Competition Regulation*, March 2001 p. 26.

[30] The criteria for declaring a telecommunications service are somewhat different to the criteria for declaring an essential service pursuant to Part IIIA of the Act. Section 152AL(3) provides that the ACCC must be satisfied that the making of a declaration will promote the long term interests of end-users.

these measures is to protect the best interests of the community during the transition from a monopoly to a competitive market.[31] In addition, competition laws in this area have been strengthened by the introduction of Part XIB.

A similar approach has been taken for airports, and gas and electricity industries. In recognition of the natural monopoly characteristics of airports, a regulatory scheme with a set of price controls over core aeronautical services (and monitoring of other prices), and an access regime to encourage competition, has been established.[32] Similarly, there is an access regime and revenue regulation for electricity transmission and distribution networks.[33]

Networks regulated under general anti-competitive conduct rules (Part IV)

When products and services exhibit network effects, but are not necessarily covered by Part IIIA or industry-specific access or price regulation, they may still fall within the scope of the anti-competitive conduct provisions of the Act (Part IV).

Conduct that may be covered by Part IV includes the following.

Allegations of misuse of market power (s. 46)

Section 46 of the TPA prohibits a person who has substantial market power from using it for a proscribed purpose. Proscribed purposes include eliminating or substantially damaging a competitor, preventing entry into a market, or preventing or deterring a person engaging in competitive conduct.

For network industries, this may include:

- refusals to provide access to a potential user, or discrimination against certain types of users;
- refusals to allow for interconnection with competitors;
- predatory behaviour; and
- restrictions on the ability of users to deal with competitors which may restrict the development of competing networks.[34]

That is, both inclusive and exclusionary conduct may fall within the scope of s. 46.

Mergers and other collaboration between competing networks and potential competitors (ss. 45 and 50)

Section 45 of the TPA prohibits contracts or other arrangements which are likely to result in a substantial lessening of competition in a market. This includes arrangements between competitors that are likely to result in a fixing, controlling or maintaining of price which are deemed to substantially lessen competition pursuant to s. 45A. For example, the setting of interchange fee agreements which are likely to result in the fixing, maintaining or controlling of prices may raise issues under ss. 45 and 45A of the Act.

Also, when members of a network agree to exclude other persons from using the network this may also raise issues under s. 45.

Mergers and acquisitions of networks likely to result in a substantial lessening of competition in a market are prohibited under s. 50.

Exemptions

There are two kinds of exemptions particularly relevant to network industries.

First, if conduct may otherwise breach Part IV (other than s. 46), the parties may seek authorisation of the conduct which will provide protection against legal proceedings under the Act. The Commission will authorise the conduct if it is satisfied that there are public benefits that outweigh the anti-competitive detriment, or, in the case of a merger application, the proposed acquisition would result in such a benefit to the public that it should be allowed.[35] This is the primary provision that currently enables the Commission to consider public-benefit arguments, including efficiencies in assessing collaborations to form a network, or the conduct of an existing network.

Second, s. 51(3) of the Act exempts the imposing of or giving effect to a licence or assignment of a patent, registered design, copyright or trade mark

[31] The ACCC recently reviewed current price control arrangements. See *ACCC Review of Price Control Arrangements*, February 2001.

[32] See *Airports Act 1996* (Cth).

[33] See National Electricity Code (NEC). Also note that the regulatory responsibility for the electricity transmission and distribution networks is divided between the Commonwealth (with the ACCC as regulator) and the States.

[34] This may also raise issues of exclusive dealing pursuant to s. 47 of the TPA which prohibits refusal to deal, or dealing on condition that the acquirer of goods or services does not deal with the supplier's competitors.

[35] Section 90.

from the operation of Part IV — unless the conduct falls within s. 46 (misuse of market power), or s. 48 (retail price maintenance). This may restrict the application of the Act if a network uses its control over intellectual property rights to create or exert market power (unless it can be shown that it has engaged in a misuse of market power).

Summary of networks regulation

Under current Australian laws, networks, particularly physical ones that have developed out of statutory monopolies, may be subject to access regulation. This will cover exclusions which may stifle the development of competition of related markets, and to a degree enable some horizontal competition to an incumbent by providing for the development of interconnection agreements.

Virtual networks emerging as part of the new economy appear more likely to raise issues under general competition laws, as they are not necessarily characterised as facilities that are uneconomic to duplicate. Also, general competition laws are more flexible in addressing issues of inclusive conduct aimed at stifling the development of competitors.

Recent cases

Australian financial payments systems

Network effects are a characteristic of payment systems. The value of an ATM network increases as more ATM tellers are introduced, because this encourages more customers to use them, which in turn, encourages the development of more ATM tellers. Equally, as financial institutions issue more credit cards, merchants benefit from obtaining access to a wider range of customers and will be more willing to participate in credit card schemes which in turn will increase the attractiveness of credit cards to customers.

In a purely theoretical setting it would be expected that the development of such networks would benefit society. However, in 1996, the Wallis Report[36] found significant market power issues arising in payment networks in Australia. Key issues identified included the following.

- Interchange fees for credit card use at the wholesale level were being passed on by merchants as higher prices for goods and services. As the fees were not transparent, consumers were not responding by moving to other payment forms. In fact, this may limit the development of new payment systems.
- The relative bargaining power between major card acquirers and regional banks was uneven, so regional banks had difficulty gaining access to networks as acquirers.
- The rules of international credit card associations were not transparent and could limit membership to the existing range of financial institutions.

Similarly, in 1997 the Commission raised concerns when considering an authorisation application from the Australian Payments Clearing Association (APCA) on proposed rules for the consumer electronic clearing system. It was concerned that bargaining-power inequality between member institutions networked for ATM and debit card payment, when negotiating interchange fees, would place some at a competitive disadvantage.

In September 2000 the Commission and the Reserve Bank of Australia released a joint study on interchange fees and access in Australia.[37] It was found that interchange fees for ATM services were double the average cost of providing services, and credit card interchange fees were set well above cost. Having no surcharge rules in credit card schemes prevented price transparency and ensured that other consumers subsidised the cost of credit card payments. Credit card schemes were found to limit access, excluding all institutions other than deposit-takers.

During the same period, the Commission also took action against one bank, on the basis that in jointly setting interchange fees for credit cards it was likely to breach s. 45A of the Trade Practices Act.

The results of the study and the s. 45A action suggest that networks may raise market power issues. The membership restrictions imposed by the credit card schemes illustrate that not all networks will want to provide access to everyone even though it may benefit the network — they may want participation at the retail level, but not at the wholesale level because this may endanger their individual market positions.[38] This case also shows that not all

[36] *Financial System Inquiry Report* (1997).

[37] Reserve Bank of Australia & ACCC, *Debit and Credit Card Schemes in Australia, A Study of Interchange Fees and Access*, October 2000.

[38] A common complaint raised by firms seeking access to a network is not that they are not allowed to use the network, but that they are limited to being retail customers. They are not offered access at wholesale prices.

networks can be relied on to charge low prices to encourage usage. That is, while direct prices to consumers for use of credit card facilities appeared to be low, high prices were being charged to merchants and subsequently passed onto consumers in the cost of products. Finally, while interoperability between member financial institutions enabled them to compete against one another, it also provided opportunities for collusive price fixing and, via interchange fees, restricted the level of competition between them.

It has been argued that interchange fees are a necessary and efficient mechanism in developing credit card services, but it is questionable whether such high fees were necessary once the network was established.[39]

A longer-term consideration that emerged from analysis of the financial payments system was that the above conduct not only imposed higher costs on the community as a result of the exercise of market power, but also restricted competitive payment instruments from developing. As the cost of credit cards to consumers was subsidised through higher charges to merchants, pricing signals on the cost of credit facilities was distorted. This is a key concern with the exercise of market power in the new economy — that instead of encouraging competition, networks may be able to stifle innovation and efficiency.

The Reserve Bank of Australia has now formally designated credit card schemes in Australia as payment systems subject to its regulation under the *Payment Systems (Regulation) Act 1998*.[40] Under this regime, the Reserve Bank will establish standards for the setting of interchange fees and a regime for access to the credit card system.

[39] See J Gans & S King, op cit.

[40] See Reserve Bank of Australia, *Designation of Credit Card Schemes in Australia*, media release, 12 April 2001.

The Microsoft case[41]

Probably the most prominent international case in this area has been the Microsoft one which has generated debate on a wide range of issues and is still not yet finally decided. The US Department of Justice took action against Microsoft alleging that by a range of actions it had used its market power in the market for Intel-based PC operating systems to stifle competition in that market and the emerging market for Internet browsers.

A key element of the trial judge's decision against Microsoft was that it derived the necessary market power to engage in this conduct from network effects. It was held that Microsoft had a dominant market share in Intel-based PC operating systems, and that market share was protected by the so called 'applications barrier to entry'.[42] That is, it was held that the market for Intel-based PC operating systems exhibited indirect network effects because the value of Microsoft's operating system increased as more applications were developed for that system. This made it difficult for any other operating system to attract significant consumer demand, thus enabling Microsoft to retain its position.

Questionable conduct included the imposition of technical and contractual ties between Microsoft's Windows operating system and Internet Explorer. It was argued that Microsoft was constraining the ability of other software developers including Netscape from entering the market for Internet browsers, and ultimately, the operating systems market itself.

This case demonstrates the divergence in views about the competitive implications of network effects.

Critics of the Microsoft decision suggest that Microsoft's market power is transitory because of the rapid development of technology and that its conduct has consumer benefits.[43] In particular, critics of the decision argue that Microsoft's behaviour served to increase usage of an innovative product, Internet Explorer, and provided convenience to users by offering the new product with the Windows operating system. However, it could also be argued that the way in which Microsoft went about tying the two products was beyond what was necessary to achieve

[41] *US v Microsoft Corporation*, 87 F. Supp. 2d 30 (DDC 2000) (appeal pending).

[42] See *Conclusions of Law*, p. 3.

[43] See Richard McKenzie & Dwight Lee, op *cit.*; Prof N Economides, *US v MS and the Future of the US Computing Industry*, May 5, 2000 at <http:/ www.stern.nyu.edu/networks/usvms.html>.

this outcome and therefore had the effect of restricting the development of new services.[44]

It is likely that similar issues may arise in assessing the conduct of a product or service exhibiting network effects in Australia under s. 46 of the TPA. If the provider of a network seeks to leverage off its network to introduce new complementary products this may provide efficiencies and social benefits, but at the same time, could be used to preserve market power and stifle competitive innovations. (See International News in this issue of the journal for the proposed settlement of the Microsoft case.)

WorldCom/MCI

The European Commission has also considered the competitive implications of network efficiencies in some matters. These include WorldCom/MCI a merger between two Internet backbone operators.[45] It was concerned that as the size of WorldCom/MCI's Internet network grew and it became more valuable for customers to have access to it that it would achieve a dominant position because of network effects. This would enable it to exercise market power against potential competitors, particularly for interconnection. Particular concerns included the ability to terminate peering arrangements (effectively treating competing wholesalers as customers) and degrade the quality of links between its network and competitors — causing more customers to shift to WorldCom/MCI.

It has been argued that this decision over emphasises the dangers of market power network effects. In particular, one commentator stated that the termination of peering arrangements is not necessarily evidence of foreclosure, but is consistent with economic efficiency and the need for a network operator to protect itself from free-riding.[46]

[44] See R Gilbert and M Katz, 'An Economists Guide to US v Microsoft', *Journal of Economic Perspectives* — vol. 15 no. 2, Spring 2001 at p. 35 queries why, if Microsoft's objective was to increase the value of its personal computer platform, it wouldn't support well made browsers other than Microsoft itself.

[45] MCI/WorldCom, Case IV/M. 1069, OJL 166/1 (1998).

[46] See Cento Veljanovski, *Trade Practices in the Network Economy*, paper delivered at the Trade Practices Committee Workshop, 17–19 August, 2001 pp. 25–26.

Summary

The above cases indicate that market power issues may arise for different types of networks.

Inevitably, in assessing these issues the conduct of network products or services will be seen to contain both pro and anti-competitive elements. As for Microsoft, WorldCom/MCI and the treatment of interchange fees in credit card payment systems, the impact of network effects and the merits of each case are hotly debated.

Nevertheless, given that failure to act in such cases poses a significant risk of anti-competitive detriment, particularly when market power may stifle innovation, it would be unwise to dismiss substantive competition issues without careful consideration.

The future — e-commerce networks

These themes are likely to re-emerge as new e-commerce networks continue to develop, particularly B2B electronic marketplaces. Network effects are also relevant to the collaborative processes to develop standards for e-commerce.

B2B electronic marketplaces

B2B electronic marketplaces (B2Bs[47]) are essentially electronic platforms that allow users to trade with other businesses in a standardised manner. Beyond that, marketplaces can differ dramatically, as they may:

- be open systems, free to any and all users or closed systems that require users to join up as subscribers or members;
- focus on a particular product or industry (verticals) or a wide variety of products used in many industries (horizontals);
- provide facilities for catalogue purchases or an actual price mechanism (e.g. a spot market), or both;
- operate by independent commercial organisations, a joint venture between competitors, or an existing industry association;
- operate for profit or non-profit;
- provide actual trading capabilities (i.e. click on a product and send the message through to the seller), or catalogue-only capabilities (i.e. see the sellers catalogue, but complete trade offline);

[47] Although the term B2B is commonly used when discussing B2B electronic marketplaces, technically the term B2B denotes a much broader range of e-commerce activities.

- provide payment and settlement services or not; and
- offer to integrate trading into buyers and sellers internal IT systems, or require rekeying of trading information.

There are numerous examples of B2Bs developing both at the domestic and international level. Domestically, examples include: corProcure and Cyberlynx, horizontal buyer-driven catalogue and reverse auction B2Bs established to trade indirect goods and services; PeCC, a vertical buyer-driven platform for the pharmaceutical industry; Ausmarkets and Yieldbroker, vertical seller-driven trading platforms for wholesale bonds and other over-the-counter (OTC) products market; and EANnet, an independently owned electronic platform for the grocery industry. Internationally, examples include Covisint, the vertical buyer-driven trading platform for the auto industry, Myaircraft.com, and GlobalNetExchange (the global retail B2B).

A B2B provides users with a one-stop shop to trade with each other. As more users join, the B2B becomes increasingly valuable to existing users because they will be able to access more buyers and sellers. This helps in comparing price and other terms of trade to obtain the best deals. Also, as more users join up to a particular B2B, it becomes more valuable to others because they can deal with more trading partners in a standardised way.

However, although one stop shopping is essential for products such as stocks, futures and other financial derivatives which are homogenous products governed by the need for liquidity, liquidity is not necessarily so important in manufacturing inputs. Buyers may prefer to deal with a particular supplier who customises a product for them. They may not care so much about how many other suppliers are involved in a B2B and accordingly the network effects may not be as strong. Nevertheless, there may still be benefits from gaining access to standard electronic trading mechanisms.

Unlike traditional networks, B2Bs are not necessarily based on physical infrastructure costs. Internet infrastructure and browsers enabling connectivity are already in place. Yet these electronic platforms are not necessarily cheap or easy to build up and pull down. In talking with parties trying to establish B2Bs, the Commission is finding that such ventures are taking months if not years to develop. The generic technology is easy to acquire. What is not so easy is customising it to meet the needs of particular industries. For example, standards may need to be developed for electronic purchasing forms, and to enable businesses to load their products onto electronic catalogues that are compatible with different buyer systems. These may seem trivial, but they can be costly and time consuming. Thus, the infrastructure costs in such ventures may not necessarily be seen as physical assets, but intellectual property rights.

As with other virtual networks, there are significant benefits and efficiencies to be gained from B2Bs. One example of this is in the health industry. A study completed in 2000[48] analysed the implications of a B2B pilot, Project Electronic Commerce and Communication for HealthCare (PeCC), which was developed to facilitate online procurement of pharmaceutical and other supplies to hospitals and retail pharmacies. It found that the potential cost savings were about $340 million per annum, with the overall cost of an order reducing from $75 to $5. Most of the savings were simple things like reducing ordering errors and improving inventory management. This can have significant flow-on effects for cash flow and payment cycles — an issue particularly relevant to small business. With Covisint, the US auto-supplies B2B, a buyer and seller can use a common electronic platform to collaborate in cyberspace on a custom design. For buyers and sellers, there may also be significant gains from identifying new trading partners or participating in spot auctioning of excess inventory.

Standard setting

For e-commerce to develop, new types of standards need to be developed. These may include:

- product numbering in electronic formats;
- standards for security and networks of Public Key Infrastructure Certification Authorities (who need to be able to cross-check the validity of digital certificates between trading partners); and
- standards for ordering forms and electronic catalogues.

Standards is another area where network characteristics emerge, as the more a standard is used, the more valuable it is to other users.

[48] Professor Elizabeth More & Dr Michael McGrath, *Health & Industry Collaboration, the PeCC Story*, 2000.

Dealing with network effects in B2B electronic marketplaces

B2Bs and market power

It has been suggested that B2Bs may sometimes exhibit network effects that may increase market power and raise barriers to entry in the provision of B2B procurement services.[49] As stated above, it will be important to assess whether network effects are in fact likely to be strong in each case.

Even if there are network effects this does not necessarily mean all B2Bs that exhibit them are likely to raise market-power issues. This will depend on various factors including the following.

Market concentration in markets for goods and services traded

If the owner or owners of a B2B have market power in the underlying old economy products and services that are traded via the B2B, then it is likely that market power in the underlying wholesale markets would also become manifest in the emerging market for procurement services. If significant traffic is controlled by the owner or owners, they will be less concerned about competition from new entrants in the B2B sphere and more likely to abuse market power than if they were independent. Thus, the Commission has stressed that in assessing B2Bs, one of the key issues is whether the marketplace is participant-owned and what degree of combined market power those participants wield.[50]

Substitution possibilities

When there are substitutes for using a particular B2B — for example, other B2Bs, other e-procurement services, or traditional offline ones — then it is less likely that a B2B will be able to exercise market power. Whether or not such services will be close substitutes will depend on the level of efficiencies delivered by B2Bs, and whether other e-procurement and offline procurement procedures will be capable of providing a competitive service.

Dynamic characteristics

Dynamic characteristics such as the potential for new technology to leapfrog over the old incumbent is a relevant consideration in assessing the extent to which an incumbent may have market power.

In assessing dynamic characteristics, whether the incumbent believes it is about to be overtaken and whether this constrains its ability to exercise market power needs to be considered. In each case, to discover how long it takes for a new entrant to replace an incumbent — either with a new product or a new variation — and whether the incumbent does appear to respond to the threat by keeping prices down, the history of an industry must be scrutinised.

Again, the underlying market structure is relevant. If owner-participants of a B2B marketplace control the majority of throughput, the threat of independent innovation is much less.

Also, much innovation stems from building on existing knowledge. Access to knowledge depends on intellectual property rights and the willingness of an incumbent to provide access to a product or standard for the purposes of creating compatible or competing services and products. Some incumb-ents will make that knowledge available, and this may enhance the possibility of dynamic change in the industry. However, if they believe they have sufficient market power, they may close or restrict access to knowledge to retard the development of new technology — or rather, new technology not controlled by them.[51] Often, such activities may have the protection of intellectual property laws.

Switching costs and compatibility

Also, there is the question of switching costs. While the Internet itself is based on open standards, more complex interfaces between businesses and online trading mechanisms arising in B2Bs may require significant internal investment. It is possible that networks will do deals to reduce the cost of access to promote the development of an application. However, although entry costs may be lowered, this may not mean that switching costs will be low.[52] Users may be locked into a network, which increases the ability of the incumbent to exercise market power.

[49] See United States Federal Trade Commission, *Entering the 21st Century: Competition Policy in the World of B2B Electronic Marketplaces*, 2000; W Blumenthal, B2B Internet Exchanges: The Antitrust Basics, *Antitrust Report*, May 2000 pp. 34–55.

[50] 'B2B e-commerce and the Trade Practices Act', *ACCC Update*, Issue 8, February 2001.

[51] Shapiro & Varian, *Information Rules*, 1999.

[52] FTC, *Entering the 21st Century: Competition Policy in the World of B2B Electronic Marketplaces*, 2000 Part 3 p. 23.

Some may argue that to attract customers, B2Bs will ensure that switching costs are low and that their systems are compatible with others. However, this will depend on the degree of underlying market power the B2B may have at the outset and the sophistication of users in identifying whether they are being locked in or not. It may be that compat-ibility can occur — but only if the user purchases an expensive conversion software program.

Other barriers to entry — supply-side economies of scale

Some types of B2B may also exhibit supply-side economies of scale, and require significant investment — particularly for research and development — which should also be considered when assessing whether new entry is likely.

Accordingly, there are many factors that need to be considered before determining whether a B2B may, because it exhibits network characteristics, have the ability to exercise market power.

Assessing the conduct of a B2B under the Trade Practices Act

Access regimes

B2Bs are not currently covered by a specific access regime under the Act. As outlined above, Part IIIA is only likely to apply to services for facilities that are uneconomic to duplicate, or of national significance. While this has not yet been tested by Australian courts, it is unlikely that many B2Bs will fall within the scope of Part IIIA. However, if a particular B2B becomes big enough to be considered of national significance or uneconomic to duplicate then it is conceivable that in the future some B2Bs may be subject to an access regime.

Competitor collaborations to establish a B2B

Arrangements between competitors in wholesale markets to establish a B2B or mergers between B2Bs may raise issues under ss. 45 or 50 of the Act, if it is likely to result in a substantial lessening of competition in a market.

When the arrangement enables competitors to combine their existing market power in wholesale markets to create substantial market power, this may allow them to exercise the power to harm competitors and engage in collusive behaviour. This could include the exercise of monopsony power when the B2B is owned by buyers (monopsony is a market condition in which there is only one buyer), tacit collusion on price, quantity or other strategic information sharing, and refusal of access to, or discrimination against third party competitors.

The analysis may also consider the effect of the development of market power on the competition for B2Bs, and in particular whether this is likely to stifle the development of innovative and efficient competitors.

Conduct of a B2B — membership and operating rules

The continuing conduct of a B2B — whether it is formed as a competitor collaboration, a single competitor, or an independent B2B — may also raise issues under ss. 45, 46 and 47 of the Act.

Some problems may arise particularly for membership rules that exclude access to some businesses if this is likely to cause a substantial lessening of competition in the relevant wholesale markets. In each case it will be necessary to consider carefully whether exclusions restrict competition, or enhance it. Sometimes exclusions may appear restrictive, but in fact are there to protect other users (for example, prudential controls). Also it is important to consider whether rules are clear and objective, or whether they contain subjective elements that may enable owners to use them for competitive purposes.[53]

If the rules of the B2B enable competitors to obtain commercially sensitive information about each other's trading activities, or to combine their trading activities, this may raise issues of price fixing or tacit collusion under s. 45 of the Act.

Also, careful consideration will need to be given to exclusivity clauses, or conduct that promotes exclusivity as this may be used to increase barriers to entry and preserve market power.

Role of network effects in competitive analysis

Those who argue that network effects do not raise market power issues may suggest that such issues are unlikely to arise, and even if they do, that they would be counter-balanced by the pro-competitive benefits of B2B marketplaces.

It may be argued that operators of a B2B would be unlikely to unreasonably refuse access as it is in the interests of the network owner to encourage participation to increase the value of the B2B itself. In fact, if it were to do so then it would risk losing customers to a competing network. Also, it could be argued that participants would not collude on price

[53] Forthcoming paper, Gans & King, *Competitive Issues Associated with B2B E-Commerce*, 2001.

or share information because if they were to do so, customers on the other side of the market would move to a competing network.

However, as discussed above, it is important to note that while network effects may help develop and maintain market power, problems are not caused only by network effects. Other factors combine with them to lead to the development of market power that can enable a B2B operator to engage in such conduct.

Assessment of pro-competitive and public benefit elements

That is not to say that the Act does not provide for pro-competitive elements to be considered in assessing B2Bs. In assessing the potential effects on competition pursuant to ss. 45 and 50, or whether a person has substantial market power for the purposes of s. 46, pro-competitive elements may be relevant if it can be shown that as a result of them, anti-competitive conduct is not likely to occur.

Alternately, the parties may seek authorisation so broader public benefits can be considered.

Application of competition laws to networks in the new economy

At the beginning of this paper, three common concerns about applying competition laws to industries exhibiting network effects in the new economy were identified. The following paragraphs then provided a brief summary of the competitive implications of network effects, competition laws in Australia which currently deal with such issues, some recent domestic and international case examples and a brief overview of the potential application of the law to an important development in e-commerce — B2B electronic marketplaces.

From this analysis, the following three questions need to be addressed.

1) Is it true that by exaggerating the potential market power network effects competition regulators stifle pro-competitive ventures?

Under the Act, network effects comprise one factor that determines if a firm or firms have a substantial degree of power in a market. Products or services that attract network effects do not necessarily fall within the scope of specific access regulation or pricing controls, and in many cases will be unlikely to do so. Also, as discussed for B2Bs, not all networks will have sufficient market power to raise issues under the competitive conduct rules. However, when access regulation is applied, such as in telecommunications, or when competitive conduct rules have been applied, as in the credit card payment system, the objective of regulatory intervention was not to stifle competition, but to assist pro-competitive innovations threatened by the conduct of incumbent network operators to develop.

Also, it is notable that current competition laws would rarely prevent the development of a network. Most regulation, with the exception of ss. 50 and 45 which could restrict collaborations to form a network, is designed to address the conduct of a network operator, not prevent its development.

2) Is it true that, in new economy markets, the potential threat of new entry is particularly strong because technology is changing rapidly and that therefore any market power that may arise because of network effects will be short lived?

As seen in the Microsoft case, one of the key issues is not simply whether network effects exist, but whether the parties are able to use that position not only to do competitive damage in another market, but to preserve their position in their primary market. Accordingly, while in some cases it may be that new inventions will lead to the rapid rise and fall of some networks, it is important to consider under competition laws whether the owner of the network is behaving in a manner that is likely to prevent such competition from occurring.

3) Do competition regulators confuse competitive conduct with predatory behaviour when network owners offer lower prices and encourage access to their networks?

As seen for Microsoft and for credit card schemes, networks sometimes do restrict access and low prices may be subsidised by the setting of high prices to other market participants. Accordingly, it is prudent not to assume that all networks will act pro-competitively at all times. This will be a question of fact in each case.

Conclusion and further issues

The above discussion indicates that the existence of network effects in e-commerce products and services does not necessarily show, by itself, the presence of market power. The above analysis of the Act also indicates that the legislative framework is relatively neutral in its treatment of network effects, and while not discounting the potential market power issues, is capable of balancing such concerns with potential pro-competitive arguments.

However, there are still some key policy issues arising from the application of the Act to networks that may need to be addressed.

How should pro-competitive issues be assessed?

Under the current legislative framework, pro-competitive elements of networks may be relevant in assessing whether conduct is likely to substantially harm competition. However, for wider public benefits such as employment opportunities and industry growth to be considered, parties may need to submit their conduct for authorisation by the Commission.

When conduct includes a per se offence (for example price fixing, as for credit card interchange fees), pro-competitive arguments may not be taken into account unless the parties seek authorisation.

In assessing efficiency benefits and pro-competitive elements under either an authorisation or competition test, difficult issues will still arise in assessing the potential strength —efficiency gains with new technology markets. For example, it may be argued that allowing participant-ownership in a B2B is important to guarantee throughput — otherwise a B2B may be too risky to launch. However, it will be difficult to test this proposition in an immature market environment.

Treatment of intellectual property rights and s. 51(3) exemption

Intellectual property rights will be highly valuable in e-commerce, and as seen in the Microsoft case, how they are used may affect the competitiveness of markets. However, currently the application of the Trade Practices Act to the use of intellectual property rights is uncertain, and may be limited to s. 46 cases. This may not be adequate to address all issues, as this would only cover issues that constitute a misuse of market power and fall under a purpose test. Other provisions of the Trade Practices Act also include an effects test for the wider competitive implications of the conduct in question.

Duration of market power

This paper suggests we should be cautious in assuming that, in new technology industries, market power associated with network effects will be fleeting as new technology overtakes old. However, regulators will still need to consider carefully what constitutes a significant period to identify whether they need to intervene to prevent the use of market power. This may need to take account of not only the absolute period that an incumbent may be expected to be in a position to exert substantial market power, but how much consumer detriment may be caused, even over a relatively short period.

Section 46 — purpose vs effects test

Conduct of a network operator may be assessed under s. 46 of the Act. Because s. 46 relates to the purpose of the conduct, rather than the effect on competition, it may be difficult to apply, particularly when the motivation behind the conduct appears to be ambiguous. For example, when a network operator decides to offer low connection prices to its network, this may imply either a pro or anti-competitive purpose, depending on the facts. In fact, it may be more appropriate to apply an effects test that goes to the heart of assessing the competitive implications of particular conduct, and is more suited to balancing pro and anti-competitive elements.

Administrative issues — when to assess B2Bs

As discussed above, B2B issues may arise during the formation stage and then continue. While a B2B may seek Commission clearance for the start-up service, it may be that over time the membership and operating rules change, the nature of the service may alter as new business opportunities emerge and the B2B's market position changes. This raises the issue of whether a B2B collaboration that has initial clearance will need to continue to seek informal clearance from the Commission when its rules change. In fact, when a particular venture has been authorised, parties will need to consider whether a particular rule change will in fact invalidate the terms of authorisation and require further or separate authorisation.

Deregulating telecommunications in the digital era

Following is an edited version of a presentation by Michael Cosgrave, the Commission's general manager, Telecommunications, to the CommsWorld Telecoms Regulation Forum in Sydney on 18 July.