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Telecommunications Issues in Market Definition*

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This article considers the significance of market definition for the regulation of telecommunications markets in Australian competition law. The legislative context for defining telecommunications markets is discussed. The economic principles which arise when defining telecommunications markets are addressed. The article considers how the economic principles have been applied in telecommunications cases in the United States and Europe. Because of the similarities between telecommunications and other network industries, illustrative network industry cases are examined. The article discusses three particularly vexing (and complex) issues for defining telecommunications markets: the concept of a cluster market; the role of functional analysis; and the relevance of price discrimination and customer segmentation. The implications of the economic principles and case law for the regulation of the telecommunications industry in Australia are considered.

Introduction

New Part XIB of the Trade Practices Act 1974 (Cth) (the TPA) gives the Australian Competition and Consumer Commission (the ACCC) new powers to control anti-competitive conduct by carriers and carriage service providers. In using these powers, and specifically when issuing a Competition Notice1 or making a tariff filing direction, the ACCC will have to form a view about the telecommunications markets in which these industry participants operate. Thus, in issuing a tariff filing direction, the ACCC must be satisfied that the person to whom it is to be directed has a substantial degree of power in a telecommunications market. Equally, a Competition Notice may only be issued where a carrier or carriage service provider has contravened the competition rule.2 That requires that a carrier or carriage service provider not engage in anti-competitive conduct.3 This would be where the carrier or carriage service either:

" has a substantial degree of power in a telecommunications market;

and takes advantage of that power with the effect, or likely effect, of substantially lessening competition in that or any other telecommunications market; or

" engages in conduct in contravention of s 45, 45B, 46, 47 or 48; and the conduct relates to a telecommunications market.4

A telecommunications market is defined as:

& a market in which any of the following goods or services are supplied or acquired:

(a) carriage services;

(b) goods or services for use in connection with a carriage service;

(c) access to facilities.

Note: Market has a meaning affected by section 4E.5

Defining the market is therefore relevant:

- in determining the application of Part XIB;
- in assessing the extent of market power; and
- in assessing the effects of conduct.

The ACCC must act expeditiously in deciding whether to issue a Competition Notice once it has reason to suspect a contravention of the competition rule. Nonetheless, it would be well served to carefully assess its assumptions as to the market within which the conduct is alleged to have taken place. Quite apart from considerations of procedural fairness, it is apparent that if the market is incorrectly drawn:

- "fast-track" indicators as to the possession of market power (such as market shares or other market concentration measures) can present a misleading picture of market power;
- a false picture may be given of the effects of conduct on the competitive process, preventing a reasonable inference from being drawn as to the long-term effects of that conduct.[6]

Moreover, where the ACCC inaccurately defines the market at issue, there is a significant risk that the court may overturn the decision to issue the notice, or fail to accept that there is likely to be a breach of the competition rule.

As a result, market definition can be of considerable importance in applying the TPA's new provisions. However, market definition poses special difficulties in network industries. Two factors are at work. To begin with, liberalisation is changing the structure of these industries, and the inherited arrangements may provide a poor guide as to the pattern which will emerge. In these circumstances, basing market definition on the way in which lines of business have historically been organised may well be seriously misleading. At the same time, the tests to be applied in attempting to assess "natural" (as against "historic") market boundaries are complex and in many instances controversial. This is especially so because conventional approaches to market definition centre on substitutability in demand and supply. As a result, these approaches provide little guidance when the fundamental issues being grappled with arise from horizontal and vertical complementarities, as is often the case in network industries.

This paper examines these questions in the context of three especially vexing issues. These are:

(1) complementarities in demand and the role of cluster markets;

(2) complementarities in supply and the principles of functional market definition; and

(3) the delineation of markets on the basis of price discrimination.

Cluster Markets

Although markets are usually defined in terms of opportunities for demand and supply-side substitution, there are numerous instances in which competition centres on the sale of packages of items which are economically distinct but in some sense complementary. Subject to certain conditions being met, the package involved can be viewed as constituting the relevant market, which is then conventionally referred to as a "cluster market".

The "cluster market" approach was first used in a 1963 United States banking case,[7] and has since been extensively applied in the United States, primarily in antitrust cases involving the financial services[8] and health care industries.[9] Despite its extensive use the approach has attracted relatively little attention from researchers,[10] and the appropriate tests to be applied remain uncertain. The more analytical approach to market definition which, in recent years, has influenced substitutability-oriented tests seems to have had relatively little impact in this area, with the result that the case law relies on a heterogeneous mix of criteria in determining whether goods (the term being taken here to include services) do or do not fall into a cluster market.

The concept of a cluster market

At the most general level a cluster market arises when the economies of scope are such as to require firms to compete not on individual items but rather on a set of items taken jointly. These economies may operate at a range of levels: in production, with joint production (say, of wool and lamb) being an extreme case; in distribution, as in the optimal assortment of goods sold in retail stores; and in consumption, as in the likelihood of consumers purchasing razors and blades from the same supplier. Examples of clusters (which are merely provided as illustrations and may be controversial in specific instances) include aggregates such as "in-patient services", which reflect the economies of scope hospitals can derive from providing a full set of the relevant medical equipment, staff and services; "transactions banking services", which groups together the range of functions for which a branch network is required; and "grocery stores", which will generally have a core assortment of frequently purchased "convenience" goods. Thus, to say that good A and good B form a cluster is to imply that a firm selling only A or only B would not be able to compete with one selling both A and B either because the supply cost of producing A and B jointly is substantially below that of producing them separately, and/or because consumers incur additional costs when they purchase A and B separately as against purchasing them jointly. This, in turn, implies that a cartel which out of an initially competitive market grouped all the firms which jointly produced A and B, but excluded those which produced only A or B, could profitably increase the joint price of A and B, and hold that price above the competitive level for as long as entry into full-line supply did not occur. It is consequently the cluster of A and B which meets the "ideal collusive group" test that underpins modern approaches to market definition.

It is tempting, but misleading, to view cluster markets in terms of functional complementarity. In fact, such complementarity is neither a necessary nor a sufficient condition for a cluster market to be defined. Thus, cars and petrol are undoubtedly functional complements but there is no sense in which suppliers compete in a joint market for "cars and petrol". Rather, cluster markets arise when unbundled supply is impossible or (more usually) uncompetitive because of economies of scope which may arise in either demand or supply. While the factors which give rise to economies of scope in production are relatively well understood, somewhat less attention has been paid to economies of scope in demand. As noted above, these economies are at work when consumers realise savings from aggregating their consumption into a package. The items comprised in the package must be such that, at least in principle, they could be purchased separately; however, the transactions costs this would impose must be sufficient to make joint purchasing prevalent. Another way of saying this is to say that consumers would face a higher cost in switching some part of their consumption among competing suppliers than they would in switching the entirety of that consumption. When this kind of switching cost (which will be referred to as the cost of unbundling) is substantial, consumers, in choosing a vendor, will focus on the price of the cluster as a whole, rather than on that of its components.

It is useful to illustrate this using an example in which the obstacles consumers face to unbundling are absolute. Thus, assume all razors were designed in such a way that they could only be used with proprietary blades. In this case, consumers could not combine a razor bought from one supplier with less expensive blades produced by another.

As a result:

(1) Single element price differentials among vendors would be irrelevant, since consumer costs would ultimately depend on charges for the system as a whole. Informed, rational consumers, in selecting among suppliers, would act on the basis of "razor-plus-blades" prices, rather than on the basis of the price of blades or of razors alone (it obviously being a matter of debate whether consumers can in fact be assumed to act in this way).

(2) Even in a strongly competitive market with informed, rational consumers, the charge for each element in a particular vendor's razor-plus-blades cluster could durably and significantly depart from marginal cost, so long as the overall consumer cost of the cluster remained close to the cost of supplying its components jointly.

(3) A cartel, formed out of such a strongly competitive market, but which only covered one of the two components (say, razors) would be unworkable: firms would cut the price of the excluded item (blades) until the joint price was back to the competitive level.

It is consequently apparent that the relevant market would be the system as a whole, rather than its component parts. In most instances, however, the issue is not absolute feasibility but convenience: that is, consumers could unbundle the cluster (buying some part from one supplier, and the rest from others) but would incur some additional transactions cost in doing so.

In this case, the margins over cost charged on any element by a producer in a strongly competitive market will be bounded by the extent of these additional costs.

The relevant costs can take a number of forms:

(1) Using a supplier may entail a fixed cost (for example, the cost of transport to a store). As a result, per unit transactions costs will be minimised if all purchases are made from one supplier. In some instances, the fixed cost may have a once-off nature, as with the charges involved in establishing an account; in others, it may be periodic, as in instances where some minimum number of transactions must be carried out each month.

(2) Alternatively, transactions costs may be variable either with the number of units or the size of the bill. For example, loyalty rebates, such as those offered under frequent flyer programs, create a gap between the average price per transactions and the price of the marginal transaction. When a consumer patronises an airline other than that he or she normally uses, that consumer incurs a variable cost consisting of the frequent flyer benefits forgone.

(3) There may be a trade-off between the fixed and variable costs of unbundling a consumer might, for example, establish frequent flyer accounts with several airlines (incurring a fixed cost) so as to reduce the variable costs involved in spreading his or her custom among airlines.

Conditions for a cluster market

Identifying the extent and nature of the costs involved in unbundling is a first, crucial, step in establishing that a collection of goods forms a cluster market. But while unbundling costs are a necessary condition for a demandside cluster, they are not sufficient to ensure that such a cluster exists. Three points can be made in this regard.

First, whether these costs have an effect on the pattern of competition will depend on their extent relative to the extent of consumption. Presumably, consumers would at least consider incurring an inconvenience valued at (say) $10 a month if their monthly outlays were several orders of magnitude greater than that amount. Conversely, consumers expecting to spend only a few dollars could not be expected to incur a fixed charge of $10 for so doing.

This rather obvious point has the important implication that the impact of unbundling costs will be sensitive to the distribution of outlays among consumers. In effect, if the bulk of consumption is accounted for by a relatively small number of consumers, and these consumers' outlays are high relative to reasonable estimates of the relevant costs which unbundling entails, then competition will occur on an unbundled basis. Whether the smaller consumers are or are not protected by the willingness of the larger to unbundle poses issues no different from those which arise from market segmentation generally, with the outcome presumably depending on the ability of suppliers to profitably price discriminate.

Second, the extent to which the costs of unbundling affect the pattern of competition will also depend on the degree to which demand for the items being bundled really is correlated. As a practical matter, consumers, faced with component parts which are available separately, are unlikely to focus on the price of the cluster as a whole if their consumption is largely of one part of the cluster rather than the others. For example, it may be that consumers have a preference for buying bread and cheese from the same vendor; but if there are some consumers who buy large amounts of bread and very little cheese, it is the price of bread which (in the absence of unusual elasticities) will mainly determine their purchasing decisions among competing suppliers. Moreover, the prospect of making even a small gain by buying bread from a specialist supplier may well induce at least these consumers to unbundle their purchases. As a result, a supplier of "bread and cheese" will not be able to durably charge these customers more than the stand alone price of bread. If these "bread intensive" consumers account for a very high share of demand for bread, then the average price of bread, even when it is generally supplied as part of a cluster, will likely be constrained by competition in the stand alone supply of bread, rather than by that in the supply of the cluster as a whole.

Third, again as a practical matter, patterns of rivalry will be affected by salient differences in consumer attitudes to, and perceptions of, the distinct items involved. These can, in particular, accentuate the consequences of differences between consumers in the extent of demand for the individual items. Thus, continuing the previous example, if "bread intensive" consumers have relatively low incomes and are highly aware of the price of bread, while "cheese intensive" consumers are mainly interested in product quality and variety, it seems unlikely that suppliers' strategies would centre on a "bread and cheese" cluster. Equally, if the growth rate of demand for bread is very different from that for cheese, and consumers incur costs by switching between suppliers (so that supplier profits tomorrow depend on market shares today), then suppliers may have very strong incentives to gain current market share in the more rapidly growing product. In this case too, the likelihood will be that competitive strategies will differentiate the two items. Whether these differences are so marked as to form distinct markets, or whether they merely define segments within a cluster market, may well be a matter of some controversy.

In practice, it is frequently difficult to measure the costs of unbundling; as a result, the extent of these costs cannot be readily or accurately compared with the pattern of outlays. In these circumstances, it is obviously useful to examine customer surveys and marketing information more generally, and to analyse actual patterns of consumer behaviour, for example, in terms of the determinants of changes in market share.

While this is standard stuff of market definition, a more specific relative price test can be proposed for claims that two products form a cluster. This test (which is easily generalised to the N-product case) is as follows. Two products form a cluster only if: (1) holding the relative price (as between competing suppliers) of one of these products constant, as well as; (2) holding constant the other determinants of demand; (3) a reduction in a supplier's relative price for the other product in the cluster increases that supplier's share of sales of the product whose relative price has not varied. This test is readily illustrated. Assume, for example, that the claim is that the distribution of bread and cheese forms a cluster, that is, that consumers have a strong preference for purchasing bread and cheese from the same retail outlet. Then consumers will choose among competing stores on the basis of the cluster price for "bread and cheese". As a result, a shop which cut its price for bread relative to rivals, and left its price for cheese unchanged, could expect to increase its share of sales not only of bread but also of cheese. In short, taken from the demand side, a set of economically distinct items should be viewed as forming a cluster market only if it can be shown that:

(1) unbundling of consumption imposes identifiable costs on consumers;

(2) these costs are substantial relative to the level of outlays on the cluster of the consumers accounting for a large share of consumption;

(3) demand for the items comprised in the bundle is correlated among consumers;

(4) the items are broadly similar in terms of the factors which generally shape firms' marketing strategies; and

(5) suppliers' market shares for each item in the cluster respond to the prices they charge for the other items.

The case law on cluster markets

Turning to the case law, thus far, in Australia, the analysis of cluster markets has been confined to banking services.11 Equally, despite the possible significance of cluster market definition to telecommunications, there has been little discussion of cluster market issues in the reported cases overseas. One United States telecommunications case in which the issue could have been raised, but was not, was in the United States decision of *USA v US West Inc and Continental Cablevision Inc*.12 The case concerned the proposed acquisition of Continental Cablevision (the largest cable system operator in the Unites States) by US West Inc (a major provider of local telecommunications services). US West was the dominant provider of local telecommunications services (including dedicated services) in several States. Continental Cablevision owned 20% of the shares in Teleport Communications Group, an access provider which provided dedicated services in Denver, Omaha, Phoenix and Seattle.13

To assess the competitive impact of the merger, the Department of Justice (DOJ) defined the market as the provision of dedicated services in metropolitan areas in and surrounding Denver, Omaha, Phoenix and Seattle. Concerning dedicated services, the DOJ considered there to be no suitable substitutes available to a dedicated services customer. Applying the "Hypothetical Monopolist" test to define the market, the DOJ indicated that a small but significant and nontransitory increase in price (SSNIP) would not cause enough customers to switch to other telecommunications services to make the price increase unprofitable. Concerning the geographic area, the DOJ stated that consumers of dedicated services in a given metropolitan area would not turn to providers located outside of their area in response to a SSNIP. While the DOJ distinguished "special access services" and "local private line services", it included those services in the same market. It did not evaluate the transaction costs involved in unbundling the products. One possible reason why the DOJ included the two services in the same market is that a notional monopolist of both services would face higher transaction costs in supplying the services separately than together and would therefore only supply the services as a "cluster".

A recent European telecommunications decision *Re the Agreements between I-CO Global Communications Ltd (ICO) and Inmarsat*14 also raised the possibility of discussion of the economic principles concerning cluster markets, but did not do so. The case concerned the International Mobile Satellite Organisation (Inmarsat) which created an affiliate (IC-O Global Communications) to finance, construct and operate the Inmarsat-P worldwide mobile satellite telecommunications system.15 The EC Commission defined the relevant market as the global market for satellite personal communications services (SPCS).16 It considered that included in S-PCS were networks of low earth orbit (LEO), medium earth orbit (MEO) and geostationary earth orbit (GEO) satellites, their control earth stations and gateway earth stations through which access could be provided to terrestrial fixed or mobile telephony networks.17 The commission observed that S-PCS may complement and/or substitute for wireless terrestrial mobile technologies and PSTN (the public switched fixed telephone network), thereby enhancing service coverage in remote areas of low population density and/or where there is poor terrestrial infrastructure.18 The commission further noted that S-PCS may substitute for cellular mobile telephony services where the cellular network has failed to penetrate and that, for this reason, network operators were likely to offer S-PCS at a premium. While the commission considered that S-PCS may complement and/or substitute for wireless terrestrial telephony and PSTN, it did not examine whether the services were in a cluster market or may otherwise be in the same market. It also did not specify whether the bundle of products within S-PCS, that is, the "networks" of LEO, MEO and GEO satellites and earth stations were a cluster market, whether the "networks" were cluster markets, or why the networks were not individual markets.

Another European telecommunications case, that of *Re the Agreements between British Telecommunications Plc and MCI*,[19] also raised the possibility of analysing cluster markets, but the EC Commission did not consider the issue. This case concerned the acquisition of MCI Communications Corporation (MCI) by British Telecommunications plc (BT). The proposal was for a joint venture between MCI and BT (the joint venture was to be known as Newco) to provide enhanced and value-added global telecommunications services to multinational (or large regional) companies. The commission identified the market to be "addressed" by Newco as the emerging global market for value-added and enhanced services to large multinational corporations, extended enterprises and other intensive users of telecommunications provided over international intelligent networks.[20] Within this market, the EC Commission included the following services: valued added application services; traveller services; intelligent network services; integrated VSAT (very small aperture terminal) network services and global outsourcing. The commission did not, however, consider whether those services were a "cluster" market or undertake any analysis of the transaction costs (to either suppliers or consumers) of unbundling the services.

A New Zealand decision *Commerce Commission v Port Nelson Limited*[21] also raised the possibility of discussion of cluster market issues. The case concerned, inter alia, allegations of predatory pricing against Port Nelson Limited in relation to the provision of services in Port Nelson Harbour. To determine the claims against Port Nelson, the High Court had to determine whether harbour services were part of an integrated market or consisted of separate markets. Its reasoning relates specifically to functional market issues, but it also concerns cluster market considerations.

The High Court ultimately defined three separate markets: the supply of pilotage services for vessels in the compulsory pilotage area in Port Nelson; the provision of tug services for vessels entering, moving within and departing from Port Nelson; and the provision of port services and facilities for vessels calling at Port Nelson.[22] It was not persuaded that the markets were part of a unified market for "vessel movement services". To reach the conclusion that the market was not integrated over the various services, the court cited "commercial perceptions". It stated that, while the harbour services were "complementary", it was not outside contemplation that the individual services could be acquired from different services and, further, the services were not "substitutes". The court stated that:

> & most pilotage acts are accompanied by use of tugs, and vice versa & However & it is possible to pilot without a tug & To a considerable extent, the services are complementary & However, they are not interdependent. Nor are they substitutable. Pilotage is guidance. Tugs are motive power. The one cannot be substituted for the other, as if such were alternatives. We are not persuaded commercial perceptions, to the extent such assist, are otherwise. The vessel needs a pilot to guide it in or out. The vessel also needs whatever tugs safety requires to assist manoeuvring during that process. While habits of thought may have somewhat clouded within New Zealand through the commonplace provision of both pilotage and towage by one entity, there is no proved commercial perception such inevitably must be so & It is not outside contemplation pilotage could be taken from one source and towage from another. With a price differential, such indeed would be likely & We consider the postulated merger into one wider `vessel movement services' market, in which each loses its own distinctive identity, goes further than substitutability and commercial commonsense permit & [23]

To the extent that the judgment suggests that services must be substitutes to be included in a market, the decision is clearly erroneous. Although substitution is often the critical factor in defining a market, there are circumstances in which it is appropriate to define a market as a cluster of complementary products. The practical difficulty lies in correctly implementing the relevant test.

Functional Markets

The definition of the functional level of a market is critical to the accurate assessment of a firm's market power. In network industries some firms which are integrated over several functional levels typically compete with firms which are either not vertically integrated, or are integrated over a smaller number of functional levels. The issue then arises as to whether the integrated firm is in fact operating in several distinct markets (that is, the separate functional layers) or in a broader market encompassing these layers.

Perhaps as a result of the (historically) highly regulated nature of the network industries in Australia, there has been little analysis of functional market issues. When industries are highly regulated, the regulation itself is likely to dictate the functional spheres of markets. With the advent of deregulation, privatisation and corporatisation, however, new competitors may break into the functional chain, calling for a reappraisal of issues of competition and market power. In Australia, moreover, in tandem with the effects of deregulation and the emergence of competition, the delineation of functional markets may be affected by the granting of access to services via the declaration procedure in Pt IIIA of the TPA. It is therefore not surprising that the more recent authority on functional market analysis in Australia has arisen from the decisions of the National Competition Council (NCC), several of these decisions currently being on appeal to the Australian Competition Tribunal.

The relevant test

The NCC has adopted a test developed by Ergas according to which market layers are functionally distinct if they are in fact separable from an economic point of view.[24] This depends on whether the transaction costs involved in the separate provision of the good or service at the two layers would not be so great to prevent such separate provision from being feasible.[25] It is further stated, however, that separability is a necessary but not sufficient condition for distinct functional layers to form distinct markets. Rather, for two layers to fall into distinct functional markets, serving each of these layers must require assets specialised to the layer, so that supply-side substitution is not so immediate as to unify the field of rivalry within which services at the two layers are provided.[26]

In essence, this test asks whether absent the market power which is at issue, the layers would be structured as distinct activities, such that a hypothetical monopolist over one layer but not the other could implement a small but significant and non-transitory increase in price (SSNIP) over the competitive level. Implementing this test involves:

(1) assessing the economies of scope between the two layers, notably in terms of any efficiencies in transactions costs which could be effected by their vertical integration; and

(2) if the layers are separable, assessing the extent to which market power at one layer would be defeated by supply-side substitution from the other.

This test extends Maureen Brunt's analysis of the landmark High Court decision in *Queensland Wire Industries Pty Ltd v The Broken Hill Proprietary Company Ltd*[27] (QWI). In QWI the High Court referred (albeit indirectly) to functional analysis in the assessment of competition and market power. The context was defining the market for a vertically integrated firm. The case concerned the refusal by BHP to supply Y-Bar to Queensland Wire Industries. Queensland Wire Industries required the Y-Bar to manufacture star picket fences. Mason CJ and Wilson J commented:

> Defining the market and evaluating the degree of market power in that market are part of the same process, and it is for the sake of simplicity of analysis that the two are separated. Accordingly, if the defendant is vertically integrated, the relevant market for determining degree of market power will be at the product level which is the source of that power & 28

Deane J commented on whether there might be a market for a product which has never actually been supplied to the market, for example, if the production is "in house". His Honour stated:

> While actual competition must exist and be assessed in the context of a market, a market can exist if there be the potential for close competition even though none in fact exists. A market will continue to exist even though dealings in it be temporarily dormant or suspended. Indeed, for the purposes of the Act, a market may exist for particular existing goods at a particular level if there exists a demand for (and the potential for competition between traders in) such goods at that level, notwithstanding that there is no supplier of, nor trade in, those goods at a given time because, for example, one party is unwilling to enter any transaction at the price or on the conditions set by the other. It is, however, unnecessary to pursue that question for the purposes of the present appeal.29

Brunt, however, claims that it is necessary to qualify the above passage in Deane J's judgment. She observes that a firm may have legitimate commercial reasons for not supplying its product to the market. Brunt observes, with reference to the above passage:

> No doubt the "existence of demand" or a "product for exchange" must be understood at being at an economic price. For an economist would say that, as a factual matter, it is conceivable that there is no market for Y-Bar. The market is the network of actual and potential transactions between buyers and sellers of goods or services which are, or could be, close substitutes. Under what circumstances, we may ask, would the potential for transactions not exist? Answer: when there are such efficiencies of vertical integration, as between Y-Bar and star pickets, that market coordination between buyers and sellers is superseded by in house coordination. There would, in such a case, be no functional split to create market transaction between stages of production.30

Put differently, if there are such efficiencies of vertical integration that it is more economical for a firm to deal with its production "in house" than for it to engage in market coordination, there should be no functional distinction drawn between the different stages of production (that is, the market embraces the successive functional levels).31

However, taken as it stands, the test proposed by Brunt will lead to the identification of too many "markets". Rather, to implement a SSNIP, a firm controlling only one out of a sequence of functional layers would need to be protected from supply-side substitution by adjacent suppliers. As a result, the assessment of transactions costs must be complemented by an analysis of the extent to which supply in the layer at issue requires layer specific assets. It is these two steps which together define the proper test for functional market delineation.

Case law and applications

Three points can be drawn from the rather sparse, but nonetheless very diverse, case law on functional market analysis. First, there are instances in which the persistence of regulatory restrictions on vertical integration has the effect of making functional layers into distinct markets, even though they might be merged into a single market in the absence of the regulatory constraint.

One United States decision which illustrates this point is *Schuylkill Energy Resources Inc, v Pennsylvania Power & Light Co*.32 This case concerned an electricity manufacturer, Schuylkill Energy Resources (SER) and an electric utility, Pennsylvania Power & Light Co (PPL). The latter firm was required by law to purchase electricity (up to 79.5 megawatts) from PPL. PPL belonged to an association of electric utilities known as the Pennsylvania New Jersey Maryland Interconnection (PJM).

SER commenced an action against PPL for monopolisation in breach of s 2 of the Sherman Act. The basis of the monopolisation claim was as follows. SER alleged that, when the total electric power for distribution by PJM exceeded aggregate customer demand, PPL disproportionately curtailed the purchase of electric energy generated by SER and other power producers. SER alleged that, because of PPL's actions, it was unable to satisfy its own parasitic load requirements and was required to purchase oil and electricity. It claimed to have suffered revenue and other incidental losses as a result of PPL's generation curtailments. SER alleged that the relevant markets were the wholesale market, and the retail service of 1.2m customers in PPL's service area in eastern Pennsylvania.

To satisfy the monopolisation claim under United States law, SER was required to establish that PPL had unlawfully acquired monopoly power or had a dangerous probability of unlawfully achieving monopoly power in its service area. SER was obliged to prove that PPL aimed to exclude SER as a competitor in the delivery of electricity to customers in PPL's service area (that is, the retail market), or in the wholesale supply market. The success of SER's claim therefore depended on whether the court conceded there to be no strict functional market distinction between the manufacture and distribution of electricity.

To assess whether SER competed with PPL in the markets, the court focused on a contract between the parties (formed in 1986) and legislation which governed the supply of power by SER to PPL. The court dismissed the claim on the basis that SER did not compete with PPL in the wholesale or retail markets. It observed that, in 1986, the parties entered an agreement which required SER to sell its energy exclusively to PPL for 20 years and which effectively prevented SER from competing with PPL. According to the court, this demonstrated that SER and PPL did not compete in the retail market for the delivery of electricity to consumers. The court also observed that State and federal laws prohibited SER from competing with PPL in the retail market thus the firms were not "competitors". For similar reasons, the court rejected the argument by SER that it competed with PPL in the wholesale market.

Second, when regulatory restrictions are removed, it may, at least in the initial phases of liberalisation, prove difficult to infer the shape of markets as they will eventually emerge. A New Zealand decision *Union Shipping NZ Ltd v Port Nelson Ltd*[33] illustrates this point. The context of this case was a dispute over access to and use of harbour facilities in Port Nelson Harbour. Briefly stated, the case concerned a requirement which was imposed by Port Nelson Ltd that port users use Port Nelson Ltd's forklifts and employee drivers for all stevedoring requirements in Port Nelson Harbour. Union Shipping, which objected to the conditions imposed by Port Nelson Ltd, alleged that Port Nelson's actions were in contravention of s 27 (anti-competitive contracts) and s 36 of the Commerce Act (use of a dominant position in a market for a proscribed purpose). Both the litigants agreed that the geographic market was Nelson. The litigants, however, were in fundamental opposition about the functional dimension of the market. The plaintiff, assisted by its expert witness, argued that there were separate functional markets in Port Nelson for harbour facilities, stevedoring services and the receipt and delivery of cargo. In contrast, the defendant, assisted by its expert witness, argued that the market was integrated over the different functional levels (that is, the market consisted of vessel movement services). The defendant argued that the services were best co-ordinated within one enterprise, and that between separate entities the transaction costs would be unacceptably high.

The court stated its preference for defining a market comprising distinct functional spheres. It preferred the former (functionally distinct) approach, explaining that it:

> & [better] represents present realities, and pinpoints different fields of activity and contest, fitting we think more closely to present perceptions on the ground. Such expressions as "stevedoring on the Nelson wharf", and "plant hire" depict actual fields of present activity. Whether under current trends demarcations of that variety will continue may be more debatable, but for the foreseeable future they exist. Dr Williams' recognition of economies of scope we think pinpoints an economic reality, and it may indeed result in the longer term in an integrated market of the type he postulates. For the present, however, we think it blurs lines which do in fact exist between different activity fields. We are, in effect, urged to take the longer view in what is, in this case, a very fluid situation on the wharf. While it may be that the longer view is more desirable in economic terms, predicting future structures at the Port of Nelson would in this case amount to unacceptable speculation.34

The High Court thus used the criterion of "present realities" to define the functional market.

Third and in some contrast, the longer-term tendencies at work in a market may provide a factual basis for assessing the sharpness, over the longer term, of the economic distinction between separate functional layers. The various wholesaling cases provide useful instances in this respect.

The first such illustrative case is *Davids Holdings Pty Ltd v Attorney General of the Commonwealth*35 (hereafter the *Davids* case). The *Davids* case concerned a merger between the grocery wholesalers Davids Holdings and Queensland Independent Wholesalers. The Trade Practices Commission (as it then was) would have allowed the merger to proceed. The Commonwealth Attorney General intervened and opposed the merger. The defendant, Davids, argued that the merger would not substantially lessen competition because, if the merged wholesaler attempted to raise its price to retail customers, those retailers would pass the price rise on to their own buyers (grocery shoppers). If the retailers attempted to pass the price rise on to grocery shoppers, those shoppers would substitute to the downstream facilities of the vertically integrated chain stores (Woolworths, Coles and Franklins). Accordingly, Davids submitted that it was necessary for the court to include in the market the competitive constraints arising from retail competition between the vertically integrated and non-integrated firms.

Two expert witnesses called by Davids proposed that the product and functional dimensions of the market involved the supply of groceries acquired from manufacturers and sold by various means to the public. Those economists considered that there should be no market distinction between the wholesale and retail levels of distribution. On the other hand, the other two expert witnesses called by Davids argued that it was appropriate to confine the functional level of the market to wholesaling and distribution to retailers but that the wholesale market included the services provided by the chains to their retail outlets. The Full Court commented that the latter witnesses:

> & considered there should be no division between the wholesaling activities of the independent wholesalers and the chains because markets are to be defined to include all those participants who influence the price and product policies of the enterprise being considered & [The economists] stressed that the pricing discretion of the merged entity would be constrained by the fact that the independent retailers are in competition with the chains & 36

The passage indicates that the witnesses approached the task of defining the market by adopting the Mason perspective of market definition, that is, by reference to how the firm itself perceives its sphere of competition. In a decision which commentators have roundly criticised, however, the Full Court affirmed the decision of the trial court that the competition among retailers did not exercise a sufficient constraint upon the independent wholesalers to prevent the merger from substantially lessening competition.37 It therefore refused to allow the merger to proceed.

It is difficult to envisage a clearer contrast than that between the *Davids* case and the decision a short time later of the Trade Practices Tribunal (as it then was) in *Re Queensland Independent Wholesalers Ltd* (hereafter *Re QIW*).38 After its failed attempt to acquire Queensland Independent Wholesalers, Davids acquired a South Australian grocery wholesaler, Independent Holdings Ltd. Both Davids and QIW also acquired significant shareholdings in another, smaller, wholesaler, Composite Buyers Ltd (CBL). By this time, Davids was the largest independent grocery wholesaler in Australia. Davids applied to the Trade Practices Commission for authorisation of at least 50% of the shares in CBL, which operated mainly in Victoria and New South Wales. Davids argued that CBL was no longer a competitive force in the wholesale distribution market because of its weakened financial position. Davids further argued that any anti-competitive detriment resulting from the merger between Davids and CBL would be offset by Davids becoming a more effective competitor to the integrated grocery chains in the grocery market. The Trade Practices Commission authorised the merger. Queensland Independent Wholesalers then appealed the decision to the Trade Practices Tribunal.

The tribunal affirmed the decision of the commission to authorise the merger between Davids and CBL. Whereas the Federal Court in Davids defined a wholesale market for grocery supplies by independent wholesalers in Queensland and Northern New South Wales, in *Re QIW*, the tribunal defined the market as the national market for the distribution of wholesale and grocery products to the consuming public via integrated retail chains and independent wholesalers supplying independent retailers.39 The tribunal therefore recognised that the retail competition between the independent and the integrated retail grocery suppliers constrained the market power of the independent grocery wholesalers.

The tribunal addressed the functional dimension of the market and analysed it in some detail. The expert witnesses for Davids proposed that there was de facto integration between independent wholesalers and the independent retailers and that integration was driven by the strength of retail competition.40 The tribunal, however, did not accept the argument concerning de facto integration. It observed that there was significant activity at the wholesale level; moreover, only the independent sector was not vertically integrated and 70% of turnover at wholesale in Australia passed through the hands of the vertically integrated chains. Rather than distinguishing wholesale and retail functional markets, the tribunal therefore preferred to distinguish a functional submarket encompassing transactions between the independent wholesalers and retailers.

The tribunal's decision not to define a functional market may seem to be inconsistent with the above passage quoted from Brunt.41 After all, the two layers were clearly economically separable, in the sense that the wholesale businesses were distinct from the activities being pursued at retail. However, if one considers the decision from the point of transaction costs, the decision is consistent with the passage cited above. In effect, the tribunal, in its analysis, placed great stress on the transactions cost penalties arising from the vertical disintegration of the independent sector. The tribunal went so far as to find that (1) because these penalties could only be offset by tighter integration between the layers; and (2) such integration was less likely to occur in the presence of multiple suppliers at wholesale: "competition within the independent wholesalers sub-market is counterproductive".42 It is the tribunal's analysis of these transactions costs' effects which therefore underpins its finding in respect of functional markets.

Markets Defined By Customer Segments/Price Discrimination

While the issues dealt with above refer to instances in which the central questions concern complementarities, the identification of markets on the basis of price discrimination sits more easily with standard approaches to market definition.

The theory in this respect is familiar. The essence of this theory is that the mere finding of persistent price discrimination is insufficient to support a finding that the differently treated customer sets fall into distinct markets. Rather, for this to be found, it should be the case that the groups at issue lie on different sides of a significant break in the continuum of customers ranging from those who secure the lowest prices to those who pay the highest. Absent such a break, "ripple effects" from the one group of customers to the other will limit a hypothetical sole supplier's market power.43 Further, if the buyers who pay lower prices resell the product to buyers who are asked to pay a high price, the "arbitrage" will constrain the suppliers' market power, and in these conditions, it is erroneous to define the market only on the basis of the price discrimination. Accordingly, the United States Department of Justice and Federal Trade Commission Merger Guidelines state that:

> Existing buyers sometimes will differ significantly in their likelihood of switching to other products in response to a "small but significant and nontransitory" price increase. If a hypothetical monopolist can identify and price differently to those buyers ("targeted buyers") who would not defeat the targeted price increase by substituting to other products in response to a "small but significant and nontransitory" price increase for the relevant product, and if other buyers likely will not purchase the relevant product and resell to targeted buyers, then a hypothetical monopolist would profitably impose a discriminatory price increase on sales to targeted buyers. This is true regardless of whether a general increase in price would cause such significant substitution that the price increase would not be profitable.44

In telecommunications markets the practical difficulty for defining markets lies in assessing the nature of price discrimination in a commercial context undergoing rapid change. Consider, for example, a firm with substantial market power from whom large buyers coerce discriminatorily low prices. As an authority notes, in such circumstances the firm does not, by price discrimination, augment its market power; rather the price discrimination precisely reflects the weakening of that market power.45 As a result, it may be incorrect to infer that the favoured group falls in a different market; rather, what is being observed is the unravelling of market power across a market comprising a range of heterogeneous buyers.

The practical problems this poses are compounded when the discrimination interacts with product differentiation. A firm which can effectively differentiate its product for a significant number of consumers may be able to exercise market power over that group; therefore, price discrimination and product differentiation may sometimes be regarded as different vantage points for viewing the same capacity to exercise market power. However, in the context of telecommunications services, while the "favoured" customers may seem to receive lower prices; they may be contracting for services different from those consumed by the rest of the customer population. In this case, the analysis needs to also take account of the extent of the difference in customer requirements and of the degree to which it insulates or in other ways separates the customer group at issue from the market power which could be brought to bear on other customer segments. It seems reasonable to suppose that it is these differences (which relate to the ability of the supplier to profitably impose a small but sustained and non-transitory increase in price) rather than the price discrimination per se, which are of central importance in determining whether different customer segments fall into separate markets.

The case law

European courts and administrative bodies have been willing to draw from indicators of this kind the conclusion that a specific customer group can form a distinct market.

The *Atlas*46 decision concerned a joint venture between France Telecom and Deutsche Telekom. In assessing the competitive impact of the joint venture, the EC Commission defined the markets as global, cross-border regional and national markets for advanced telecommunications services to corporate users; and standardised low-level packet switched data communications services. The commission indicated that the former market consisted of customised combinations of data communications and liberalised voice services, high speed data services and outsourced telecommunications services specially designed for individual customer requirements. It stated that Atlas targeted those consumers, citing the evidence of their highly specialised requirements:

> Due to the high cost of building and operating the networks needed to provide advanced corporate services, such services can be commercially viable only if provided to large businesses and other large telecommunications users who generate continued high traffic volumes. Customers for advanced services targeted by Atlas are multinational corporations, extended enterprises, and other intensive users of telecommunications and notably the largest among these customers. Many of these potential customers have huge telecommunications needs and have often acquired expertise in managing own internal networks; they are not likely to switch to service providers such as Atlas unless doing this proves to be cost effective. Finally, given their knowledge of the market these customers are in a position to request offers from different competitors.47

Thus, the market was defined on the basis of the special needs of a particular group of telecommunications customers.

A more recent European decision, *Re Unisource Telefonica*,48 concerned the proposed incorporation of a telecommunications provider (Telefonica) as a fourth equal shareholder in a joint venture company (Unisource). To identify the competitive effect of the merger, the EC Commission defined the following markets. First, global, cross border regional and national markets for customised packages of corporate telecommunications services; cross border regional and national markets for packet-switched data communications services. Second (and significantly in relation to customer segmentation), the global market for traveller services. The commission defined the latter market on the basis of the specific requirements of the users of the traveller services. It stated:

> The market for traveller telecommunications services comprises offerings that meet the demand of individuals who are away from their normal location, either at home or at work. Among the most relevant of these offerings are calling card services (i.e., pre-paid cards with or without a code and post-paid cards), including those in combination with credit cards and other branded service cards ("affinity cards").49

Therefore, as in *Atlas*, it was the specialised requirements of the users of the services which again formed the basis for the commission defining a market in relation to that segment of customers. Other cases have also highlighted the specialised requirements of particular consumers, citing, for example, the particular demand for GSM over analogue mobile phones50 or cellular mobile over trunked mobile services used for fleet dispatch.51

Product differentiation and customer segmentation is not a feature peculiar to telecommunications markets, however, and can also be seen in recent airline cases. The decision in *Re the Agreement Between Deutche Lufthansa AG and Scandinavian Airlines System*[52] is useful in this respect. The case concerned a co-operative agreement between the two major airlines of Scandinavia and Germany. This agreement provided for the formation of a joint sales agency through which the airlines were to coordinate capacities, frequencies and marketing policies in relation to the airline services operated between Scandinavia and Germany. When assessing the competitive impact of the agreement, the commission defined, inter alia, a market for scheduled air transport of passengers. To define the market, the commission distinguished the direct (scheduled) transport between locations from chartered transport. This distinction was made on the basis that business travellers cannot accept the inconvenience of charter flights. When discussing the different markets for chartered air transport and scheduled air transport, the commission stated:

> & The Commission takes the view that, in this instance, chartered air transport does not constitute a genuine alternative to scheduled air transport since the clientele consists essentially of business travellers. Such travellers need to travel to the main European cities to attend working meetings at agreed times and cannot therefore accept the inconvenience of charter flights, unlike passengers travelling in their leisure time.[53]

The commission therefore defined the scheduled air transport market by reference to the specialised requirements of business passengers and it distinguished this market from the less attractive features offered by chartered air transport services.

The decision of the Trade Practices Commission (the TPC) in *Application for Authorisation by Qantas Airways Limited and British Airways Plc*[54] provides an interesting contrast with the EC Commission's approach. The application concerned an arrangement to coordinate the airline services of Qantas and British Airways between Australia/Europe, Australia/South East Asia and South East Asia/Europe. The TPC defined a regional European market for airline travel, finding that the indirect routings between city points were imperfect but effective substitutes for direct routings from Australia to European nations. It reasoned that, because of the dense network of connecting flights within Europe, most indirect flights from Australia to Europe were substitutes for the more direct flight paths.[55] The TPC reasoned, moreover, that, concerning flights between Australia and South East Asia, while the indirect routes were an inferior substitute for direct travel, indirect routings were separate segments of the market for direct route travel.[56] Likewise, the TPC considered that the differences in demand characteristics between the fare classes to the different destinations were not sufficient to delineate separate markets between travellers. Rather than business and economy seats on a plane being different markets, therefore, the distinctions between fare classes designated segments within a market.[57]

Given what is known about markets for air transport, the commission's decision seems more mindful than that of the EC of the existence of a continuum of customer needs.

Conclusion

This paper has addressed three important issues concerning market definition in telecommunications and other network industries: cluster market definition, functional analysis and price discrimination/customer segmentation. It has outlined economic principles relating to the issues and the resulting tests and indicators. The examination of the recent cases in Australia and elsewhere reveals that courts and administrative bodies are generally yet to apply those principles in an analytically consistent and coherent manner. The importance of getting these issues "right", particularly in the context of the recently enacted provisions of the Trade Practices Act, suggest that they will need careful consideration in the future.

* The views expressed in this article are those of the authors and do not necessarily reflect the views of Telstra Corporation Limited.

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1 A Competition Notice will be prima facie evidence in any Federal Court proceedings that the carrier or carriage service provider has contravened the Competition Rule. Conduct in breach of the Competition Rule may, upon receipt of a Competition Notice, attract significant court imposed penalties (up to $10m and $1m per day of contravention) together with the potential for the court to award damages to affected third parties. In addition the ACCC may at any time apply to the court to restrain anti-competitive conduct.

2 Section 151 AL TPA.

3 Section 151 AK TPA.

4 Section 151 AJ TPA.

5 Section 4E of the TPA defines a market as " & a market in Australia and, when used in relation to any goods or services, includes a market for those goods or services and other goods or services that are substitutable for, or otherwise competitive with, the first-mentioned goods or services".

6 See ACCC Competition Notice Guideline issued pursuant to s 151 AP of the TPA.

7 *United States v Philadelphia National Bank* 374 US 321 (1963).

8 See eg *United States v Connecticut National Bank*, 418 US 656 (1973); *United States v Central State Bank*, 19891 Trade Cases, Trade Regulation Reports, 68,493.

9 See eg *Santa Cruz Medical Clinic v Dominican Santa Cruz Hospital*, 1995-2 Trade Cases, Trade Regulation Reports, 71,254; *Rozema v Marshfield Clinic & Sec Health Plan of Winsconsin Inc*, 1997-2 Trade Cases, Trade Regulation Reports 71,939.

10 The main exception being I Ayres (1985) "Rationalizing Cluster Markets" (1985) 95 *Yale LJ* 109. This article differs from Ayres in setting out specific tests for identifying demand-side clusters.

11 See eg the Westpac/Challenge Merger, ACCC (1996) Annual Report, p 49. See generally, ACCC (1997), Westpac Banking Corporation/Bank of Melbourne Ltd Background to Decision on Merger Proposal. See also Financial System Inquiry Report (1997) (the Wallis Report), Ch 10. For a discussion of cluster market definition in the banking industry, see generally J Albrechtsen, "Searching for a Merger Policy in the Australian Banking Industry" (1997) 5(3) *TPLJ* 180.

12 1997-1 Trade Cases, Trade Regulation Reports, 71,767.

13 Dedicated services consisted of "special access services" (dedicated traffic lines used to carry traffic from the premises of high volume users etc) and "local private line services" (dedicated lines which connected the multiple locations of end users).

14 [1996] 4 CMLR 244, Notice of EC Commission request for negative clearance.

15 Inmarsat is an international intergovernmental organisation, in which Australia has a small (1%) shareholding. It is a major provider of satellite communications services for sea, air and land commercial and distress safety applications.

16 [1996] 4 CMLR 244 at 252.

17 The ECC indicated that the major application of the networks is voice, but other segments include low rate data transmission, positioning, tracing and paging.

18 [1996] 4 CMLR 244 at 252.

19 [1995] 5 CMLR 285, Notice of EC Commission request for negative clearance.

20 Ibid, at 288.

21 2 June 1995 (NZ High Court), McGechan J and Professor R G J Lattimore.

22 Ibid, at 168.

23 Ibid.

24 See eg *Applications for Declaration of Certain Airport Services at Sydney and Melbourne International Airports* (hereafter *Re ACTO*) National Competition Council, 8 May 1997, p 15. See also *Application for Declaration of Certain Rail Freight Services*, Brisbane-Cairns Rail Corridor, 3 June 1997.

25 *Re ACTO*, ibid.

26 Ibid.

27 (1989) 167 CLR 177.

28 Ibid, at 187.

29 Ibid, at 196.

30 M Brunt, "`Market Definition' Issues in Australian and New Zealand Trade Practices Litigation" (1990) 18 ABLR 86 at 121.

31 See S Lojkine, "Issues in Market Definition Some Difficult New Zealand Cases" in *The Law and the Market Essays in Honour of Maureen Brunt*,(eds M Richardson and P Williamson), Federation Press, Sydney, 1995, p 52.

32 US Court of Appeals, Third Circuit, 1997-1 Trade Cases, Trade Regulation Reports, 71,792.

33 [1990] 2 NZLR 662.

34 Ibid, at 702.

35 (1994) ATPR 41-304.

36 Ibid, at 42,080. Emphasis added.

37 See eg J Gardiner, "The Continuing Saga of Market Definition: *QIW Retailers Ltd v Davids Holdings Pty Ltd*" (1995) 3 *TPLJ* 177; R L Smith, "Merger Policy in Close Up: QIW and Davids Holdings" (1994) *Australian Economic Review* 101; G A Hay, "Market Definition and Market Dominance: Issues from the Davids-QIW Merger Case" (1995) 3(1) *CCLJ* 1.

38 (1995) ATPR 41-438.

39 Ibid, at 40,952.

40 Ibid, at 40,951.

41 Dr Brunt was a member of the tribunal for this decision.

42 (1995) ATPR 41-438, at 40,959.

43 See National Economic Research Associates (1992) Market Definition in UK Competition Policy Report for the Office of Fair Trading, pp 71 4 and pp 83 7.

44 US Merger Guidelines (1992), para 1.12.

45 P Areeda and D F Turner, *Antitrust Law an Analysis of Antitrust Principles and their Application*, Little Brown & Co, Boston, 1978, vIII, para 626e, p 81.

46 Ibid, at 337/3. Emphasis added. Case No IV/35.830, [1997] 4 CMLR 913, Notice of EC Commission, request for Negative Clearance.

47 Ibid, at 337/3. Emphasis added.

48 Case No IV/35.830, [1997] 4 CMLR 913, Notice of EC Commission, request for Negative Clearance.

49 Ibid, at 922 3.

50 *The Community v Italy (RE Mobile Telephone Services)*, EC Commission decision, [1996] 4 CMLR 700 at 706.

51 *US v Motorola Inc and Nextel Communications Inc*, US District Court, District of Colombia, 1996-1 Trade Cases, Trade Regulation Reports, 71,402 at 77,021.

52 [1996] 4 CMLR 845. Notice of EC Commission, request for Negative Clearance.

53 Ibid, at 852.

54 (1995) Application No A90565, TPC Determination.

55 Ibid, at 53.

56 Ibid.

57 Ibid.