ANTICOMPETITIVE BUNDLING STRATEGIES

A Report for the Australian Competition and Consumer Commission

Prepared by NERA

January 2003
Sydney

Project Team:
Timothy Tardiff
Greg Houston
Carol Osborne
Jennifer Fish

n/e/r/a
National Economic Research Associates
Economic Consultants

Level 6, 50 Bridge Street
Sydney NSW 2000
Australia

Tel: (+61) 2 8272 6500
Fax: (+61) 2 8272 6549
Web: http://www.nera.com

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Overview

The Australian Competition and Consumer Commission ("the Commission") has engaged NERA to consider possible anticompetitive effects that may arise from bundling of telecommunications services. The Commission is particularly interested in a firm's use of bundling strategies to reduce competitors' addressable market in the situation where those competitors are unable to supply one of the products within the bundle.

This report discusses approaches for identifying whether bundling strategies constitute anticompetitive behaviour. It should be read in conjunction with our companion report ***Imputation Tests for Bundled Services***,[1] which examines a range of tests for assessing whether the price of a bundle constitutes an anticompetitive vertical price squeeze.

Potential Anticompetitive Bundling Strategies

There are two broad ways an integrated carrier could use bundling to reduce rivals' sales:

- ***by setting prices such that consumers are encouraged to purchase the bundle rather than individual products*** – this can be done by setting the bundle price either below the aggregated price of individual products or insufficiently above the aggregated price to account for any added value consumers obtain from bundling; or
- ***by providing the product for which it has market power only within the bundled package, thus "capturing" sales of the product for which the carrier faces competition*** – this is referred to as "tying".

Both of these strategies can be used either competitively or anticompetitively, in the sense that in some instances consumers will be better off while in others they will be worse off. Harm to rivals does not necessarily imply harm to competition. Examination of whether a firm's use of such mechanisms should be considered anticompetitive involves identifying the point at which aggressively competitive strategies become anticompetitive. In our view, the appropriate point for assessing when firms could be considered to have "crossed this line" is when their actions could no longer be considered consistent with behaviour that might be expected in a competitive environment. Thus, actions that harm rivals by, say, taking advantage of lower costs or potential efficiency gains, and which are therefore consistent with behaviour that might be expected in a competitive environment, are found not to have harmed competition. However, strategies that a firm would not be expected to engage in within a competitive market, such as setting prices below marginal costs or engaging in tie-ins which lower their profitability (at least in the short run prior to rivals

[1] NERA (2003)

being eliminated), may be considered anticompetitive.[2] This will also be the point at which a firm's actions can no longer be said to be improving efficiency in the market and at which consumers will most likely be made worse-off in the long run.

Imputation tests can be used to assess whether a firm's pricing strategies could be considered to have crossed the line between competitive and anticompetitive behaviour. These were discussed in detail in our companion paper and are only briefly mentioned here.

This paper has therefore focused on the conditions under which tying strategies could be considered anticompetitive.

Tying

When a carrier makes its sale of one product (product A) conditional on consumers also purchasing some other product (product B), then it is said to be engaging in a tie-in. Product A is referred to as the "tying" product and B is referred to as the "tied" product.

Tying can reduce competitors' sales by capturing customers who would purchase both A and B, thereby reducing the portion of the market for B the integrated carrier must compete for. If there are fixed costs in the production of B, that integrated carrier may be able to reduce rivals' sales to the point where remaining in the market (or entering the market) is no longer viable. If the integrated carrier is able to eliminate rivals in this way, it is said to have successfully "leveraged" its dominant position in one market into a second market.

Even if a tying strategy successfully eliminates competitors, it may still be consistent with the behaviour that might be expected in a competitive market and may result in efficiency or quality improvements that improve consumer welfare and/or total welfare. Determining whether a tie-in constitutes anticompetitive behaviour therefore requires an assessment of the tradeoffs between any benefits resulting from increased competitive pressures and any detriment resulting from a reduction in rivalry in the market. The net impact on consumer or overall welfare will depend on the particular characteristics of the market(s) concerned and the firm's reasons for the tie.

The complexity of making such assessments has been recognised in the US legal context, where tying is considered an ***a priori*** breach of competition law if:

- the tying and tied products are separate and distinct (in that they must clearly be different products rather than two components of a single product);
- the seller applies pressure ("coercion") to force buyers to accept the tied product;

2 Marginal cost is the additional cost of producing an additional unit of a good or service. In a competitive market, a firm will not have an incentive to price below the marginal cost of production as this would contribute negatively to the firm's profitability.

- the seller has sufficient power in the market for the tying product to enable it to coerce the buyer into accepting the tied product; and
- there is proof of anticompetitive effects in the tied market.

Even if a tying arrangement does not meet these criteria, it may still be considered an unreasonable restraint of trade under the US's "rule of reason" approach. Under a rule of reason analysis, the court considers all of the relevant facts to assess whether consumers have been made worse-off as a result of the tie. It is therefore a more time-consuming and resource intensive investigation of the impact of the arrangement than a ***per se*** investigation. The rule of reason approach is likely to be closer to the approach required under sections 151AJ and 151AK of the TPA, especially given the provisions of section 151AS, which require the Commission to consider net public benefit.

In summary, determining whether a tying arrangement could be considered to have the purpose, effect or likely effect of substantially lessening competition will most likely require detailed consideration of the impacts, both beneficial and detrimental, in the context of the relevant market(s). In this respect, it is neither feasible nor desirable to develop analytical rules, such as the imputation tests, for assessing tying arrangements.

1. INTRODUCTION

The Australian Competition and Consumer Commission ("the Commission") is responsible for administering the ***Trade Practices Act 1974*** (the TPA). The TPA sets out specific responsibilities in relation to the telecommunications industry, including anticompetitive conduct provisions. Under section 151AK and 151AJ a carrier or carriage service provider with a substantial degree of market power in a telecommunications market must not:

- take advantage of that power with the effect or likely effect of substantially lessening competition in that or any other telecommunications market; or
- engage in conduct in contravention of section 45, 46 or 47 of the TPA if that conduct relates to a telecommunications market.

Under section 151AS a carrier may seek an exemption for such conduct if it would result in a benefit to the public and that benefit outweighs the detriment constituted by any lessening of competition.

In the context of these provisions, the Commission has engaged NERA to consider possible anticompetitive effects that may arise from bundling. In particular, the Commission is interested in how an integrated carrier could use a bundling strategy to reduce the addressable market of competitors.

The Commission notes there is a global trend towards bundling in the telecommunications market. Bundling has the potential to provide net public benefits but it could also be used to foreclose competition and therefore be anticompetitive. This report considers how the Commission could identify whether bundling could be considered anticompetitive. It should be read in conjunction with our companion report ***Imputation Tests for Bundled Services***,[3] which considers a range of tests for assessing whether the price of a bundle constitutes an anticompetitive vertical price squeeze.

1.1. Report Structure

This report considers two ways in which bundling could constitute an anticompetitive strategy. The first is through price differentials, which have been covered in detail in our companion paper. The second is through tying arrangements. This paper is therefore structured as follows:

- section 2 provides an overview of the issues;
- section 3 briefly considers how a firm could use the price of a bundle anticompetitively;

[3] NERA (2003)

- section 4 considers the anticompetitive concerns associated with tying arrangements; and
- section 5 provides concluding comments.

2. OVERVIEW

The Commission has asked that we consider the anticompetitive effects of end-market bundling of telecommunications services. In particular, it is interested in the anticompetitive effects when a bundle is provided by an integrated carrier and rival companies, for whatever reason, are not able to (self) supply all of the products in that bundle.

When considering whether a company's behaviour could be considered anticompetitive, it is important to draw a distinction between harming competition (which will make consumers worse off in the long term) and harming competitors. For example, Case Associates write:[4]

> ***"Vertical arrangements which allow firms to increase market share – thereby harming competitors – by offering lower prices, better products, or more closely reflecting consumers' wants are ones which competition authorities should tolerate since these are the benefits effective competition provides. Harm to competitors should only be of concern if it is thought that competition is also harmed; by which we mean that consumers will be worse off in the long run."***

In other words, companies should not be prevented from competing on their merits. Efficiency or utility gains resulting from the joint production and provision of services should be able to be passed on to consumers, as would be expected in a competitive environment. Not allowing firms to do so would discourage efficient competition. Drawing a distinction between competitive and anticompetitive behaviour is discussed in greater detail in our companion paper, in which we conclude that anticompetitive behaviour is that which could not be expected within a competitive environment and which will, therefore, no longer be efficiency enhancing.

When considering whether a bundling strategy that reduces rivals' addressable market could constitute anticompetitive behaviour, it is useful to first consider how the provision of the bundle could reduce rivals' sales. Consumers will only have an incentive to purchase the bundle if they value the component products sufficiently highly and:[5]

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4 Case Associates (1996)

5 The extent, or likely extent, of consumer uptake of the bundle will depend on the combination of these factors. The extent of uptake will always be important in assessing whether a firm's behaviour can be said to have harmed rivals – a low degree of uptake would be unlikely to result in harm. However, for the purpose of assessing whether a firm's behaviour can be deemed anticompetitive, the degree of uptake must be considered within the context of the mechanism the firm is using. Thus, when the mechanism is price, it is important to consider the bundle within the market as a whole – low uptake of the bundle would mean little weight would be given to the bundle price within the imputation test. This is discussed in greater detail in our companion paper. When the mechanism being used is tying, uptake is considered in the context of the effect this may have on the tying firm's profitability (as a result of efficiency gains or potential increases in sales, which may increase profitability if the tie is consistent with competitive market behaviour but which may also reduce profitability if the intent is to harm

- there is a price difference between purchasing the services as a bundle and purchasing them individually from separate providers;
- consumers value the convenience of the bundle such that the price of purchasing products individually would need to be lower than the price of purchasing the bundle to encourage them to do so;
- consumers are required to do so as a result of a contract previously entered into; or
- consumers are unable to purchase a particular service outside the bundle (tying).

The first two points can be related to price differentials and thus can be assessed using the imputation tests discussed in our companion paper. They are briefly addressed in section 3. Contract requirements that, for example, lock consumers into purchasing specific products over a certain time period, can be seen to be a special form of tying arrangement. Competition concerns raised by tying are addressed in section 4.

It may be the case that the rival firms' inability to supply all of the products within the bundle, either by themselves or through the use of strategic alliances with other firms, is a cause for concern in itself. This may be the case if the integrated company uses its market power to prevent rivals from supplying the relevant product, for example by:

- refusing to supply the relevant service(s) to rivals for resale, which may constitute refusal to supply and contravene section 46, and therefore section 151AJ, of the TPA;
- refusing to supply essential input(s) to rival firms (refusing access), which could be addressed through the provisions of parts IIIA or XIC of the TPA;
- supplying the relevant input(s) or service(s) only at a price that makes entry into this part of the market unfeasible, which could be addressed through the use of imputation tests as discussed in our companion report; or
- entering an agreement with a third party with market power in the provision of the relevant product(s) that precludes this third party supplying the integrated firm's rivals, which could constitute an exclusionary provision under section 45 of the TPA.

If a firm is engaging in such strategies, one option for improving the addressable end market of rival firms would be to focus on improving the competitive environment for the product rivals are currently unable to provide.

rivals) and the extent to which rivals' sales may be reduced as a result of actions that would not be consistent with aggressive competition in a competitive environment.

3. ADVANTAGES RELATING TO PRICE

There are two ways in which the price of a bundle may encourage consumers to purchase the bundle from the integrated carrier rather than purchasing individual services:

- if there is an absolute price difference such that the price of the bundle is lower than the price of purchasing services separately, ie, consumers purchase the bundle because of the discounts they can obtain; or
- if consumers value the provision of services in a bundle more highly than they would value the provision of services separately (for example, due to its single bill nature) ***and*** this discrepancy in value is not reflected in prices.

3.1. Absolute Price Differentials

If an integrated carrier provides a bundle of services it will necessarily be at a lower price than consumers could purchase the products for individually, or there would be no demand for the bundle – unless consumers find the assembly of the bundle more convenient than having to put it together themselves (this situation is addressed in section 3.2). Given this price difference, some proportion of consumers will have an incentive to purchase the bundle, depending on the value they place on the services it contains relative to the price.

This form of pricing is generally considered welfare enhancing, as it allows multi-product firms to price discriminate by setting relatively high prices for consumers who place a high value on only some of the products and a lower relative price for consumers who place a high value on both products. If the multi-product firm has market power, this form of price discrimination can improve overall welfare relative to the firm only providing unbundled services. Thus there is a significant amount of literature on the benefits of bundling. For example Hausman and Tardiff write:[6]

> ***"More typical forms of bundling, such as the sale of products or services as a package to end users, are completely without anticompetitive implications. Indeed bundling is often procompetitive because it offers lower prices to customers."***

Weinberg also notes that the sum of all buyers' consumer surplus and the seller's profit is typically increased by mixed bundling relative to independent pricing:[7]

> ***"By offering different prices for customers who buy different combinations of goods, a seller can separate buyers according to their demand characteristics in a way that might not be possible with independent pricing of all goods. This discrimination allows the seller to increase profits by extracting greater revenue from those buyers***

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[6] Hausman and Tardiff (1995), page 536

[7] Weinberg (1996), page 4

> ***who are most willing and able to pay. When tying is used to facilitate price discrimination, its overall effect is typically to reduce the economic efficiency cost of monopoly power."***

However, as is the case in any market, it is possible that a multi-product firm could set the price of the bundle at an unreasonably low price in order to harm and ultimately eliminate competitors. Identifying the point at which the multi-product firm crosses the line between behaving competitively and anticompetitively when there is the possibility of vertical price squeezes was discussed in NERA's companion paper ***Imputation Tests for Bundled Services***. In that paper, we showed how imputation tests can be used to assess whether the price of a bundle could be considered anticompetitive. Very briefly, the relevant conclusions from this paper were:

- imputation tests should be assessed with reference to the market within which the alleged anticompetitive behaviour is taking place – if the bundle attracts only a small proportion of rivals' sales it is unlikely to substantially lessen competition;
- imputation tests based on comparisons of marginal costs and revenues are more consistent with encouraging efficient competition than tests based on average revenues and average total costs;
- if rivals are unable to supply "product A" in a bundle, the appropriate imputation test may be to compare the retail price the integrated carrier sets for the bundle with the sum of the standalone price of product A, the wholesale access price charged for all other products in the bundle and the cost of converting all other products in the bundle into an end-product;[8] and
- where there is no observable standalone price, the appropriate imputation test may substitute the costs the integrated carrier incurs to provide product A, rather than its price (this situation is discussed further in section 4 relating to tying).

Where vertical price squeezes are not an issue, assessing whether prices are unreasonably low constitutes a test for predation. These tests follow similar logic to that outlined in relation to imputation tests. A detailed consideration of predation tests is outside the scope of this paper.

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8 If the integrated firm achieves cost savings from supplying the input product to itself rather than to a rival firm, such cost savings will need to be taken into account in the imputation test. See NERA (2003) section 3.4, page 22. Under this test, the price of the bundled services may not be lower than the price of unbundled services, if all products are provided at a price such that the imputation test is only just met. However, this is not the situation envisaged in the price discrimination literature.

3.2. Valuing the Convenience of the Bundle

If consumers value the convenience of the bundle and obtain benefits from purchasing the services in a bundled form rather than individually (potentially due to the single bill nature of the bundle), then to be competitive less diversified firms will have to reduce the price of their bundle such that the following condition holds:

$$P_A^{\#} \leq P_{AB} - P_B - \varphi \qquad (1)$$

Where:
- $P_A^{\#}$ is the price the less integrated carrier charges for A
- P_{AB} is the price the integrated carrier charges for the bundle of A and B
- P_B is the market price of B
- φ measures the extent to which consumers value the bundled product relative to purchasing the items separately

If consumers value the bundle more highly than the sum of its parts, bundling will attract sales from rival firms as long as the bundle price is not set too far above the aggregated prices of individual products. However, it is not evident that the integrated firm should be required to increase the price of the bundle to reflect this valuation difference. This would appear counter to allowing firms to compete on their merits. If the firm is providing a better quality service without incurring additional costs (and perhaps achieving efficiency gains) there is no reason to require a firm to increase the price above what would otherwise be the case.

It is also likely that other firms will have their own scope economies from providing bundles. For example, telecommunications companies currently offer bundles containing phone, pay TV and dial-up or high speed internet combinations. In general, competition among companies with different scope economies is pro-competitive.

We therefore believe the application of either imputation tests (as outlined above and in our companion paper) or predation tests is equally valid in the situation where consumers place a higher value on the bundled products. A more stringent test, taking into account valuation differences, would appear inconsistent with the principle of allowing competitive action to the extent it might be expected within a competitive market environment. Thus the extent to which consumers place a higher value on the bundle, possibly due to its single bill nature, should not be taken into account through an adjustment to the standard price/cost tests.

4. TYING ARRANGEMENTS

A multi-product firm with power in one market (“market A”) may try to disadvantage rivals in a second market (“market B”) by forcing consumers who wish to purchase A also to purchase B from the multi-product firm. This is referred to as “tying”. More formally, tying occurs when a firm makes consumers’ purchases of product A conditional on the purchase of product B. Tying is also said to occur when the consumer is offered a discount on A conditional on their purchase of B. However, price-based tying has been discussed in section 3 above and in this section we focus on tie-ins based on consumers being unable to purchase A outside the bundle.

Under the form of tying we are interested in, consumers who wish to purchase product A will have no choice but to purchase the bundle from the multi-product firm. Product A is referred to as the “tying product” and the jointly provided product(s) are referred to as the “tied product(s)”. For this form of tying to be feasible, the multi-product firm must have sufficient market power in the provision of the tying product to be able to coerce consumers into purchasing the bundle. Without sufficient market power, consumers could bypass the multi-product firm in order to avoid purchasing B entirely or to purchase it from alternate sources. As an illustration, in the situation the Commission is likely to be interested in:

- the tying product would necessarily be one for which the integrated carrier may have a high degree of market power, for example, the provision of broadband services; and
- the tied products would be those in which the integrated carrier faces effective competition, for example, the provision of local and long-distance phone calls or dial-up internet services – noting that the extent and nature of competition within these markets will differ between services.

Note that there is no need to assume that the multi-product firm provides product B only within the bundle. While this can be a feature of some tying arrangements (for example “technical” tying, where the two products must be consumed jointly) it is less relevant for the Commission’s purposes. In fact, only providing tied products within the bundle would be unlikely to be a rational strategy in the situation the Commission is interested in, as this would almost certainly reduce the integrated carrier’s total sales significantly. For example, it would not make sense for an integrated carrier to offer local and long distance phone services only to those customers purchasing broadband services.

There are numerous, competitive, reasons a firm may choose to provide a particular service only in a bundled form. For example, many commentators have argued that, rather than being anticompetitive, the motivation for a monopolist to engage in tying is some other objective such as price discrimination, achieving economies of joint sales, protection of

goodwill, risk sharing, promoting new products with network characteristics, encouraging innovation, etc.[10]

However, it is also possible for a multi-product firm to use tying to unfairly disadvantage rivals, resulting in a worse outcome for consumers in the longer term. In this section we first consider the literature relating to tying as an anticompetitive strategy and then consider how competition authorities in the US have assessed tying arrangements.

4.1. The Theory of Tying as Anticompetitive Behaviour

Tying could be considered anticompetitive if it allows a seller with market power in one market to "leverage" that power into a second market in which it would otherwise face competition. There are two potential leveraging strategies that may be anticompetitive:

- the leverage is used to increase the multi-product firm's profitability by increasing the price it can charge in the competitive (tied) market above what it could otherwise charge; or
- the leverage is used to reduce rivals' sales in the tied market to the point where they become unprofitable and are forced to exit the market.

4.1.1. Leveraging to increase the price of the tied product

It has been argued in the past that tying could enable a firm to increase the price it charges for tied products above what would otherwise be possible given competitive pressures. If the tied product is provided under competitive conditions, there will be virtually no "extra-normal" profits from sales of that product on its own. A multi-product firm may be able to increase the "implicit" price it receives for this product by bundling it with a second product for which it has market power. In this way, the firm's market power in the provision of the tying product is leveraged to increase the price of the tied product above its competitive level.

However, to undertake such a strategy, the multi-product firm must give up some profit it could otherwise earn in the market for the tying product. Not offering the tying product on a stand-alone basis will most likely reduce sales because only those consumers who value both products sufficiently highly will purchase the bundle. Furthermore, unless the act of bundling adds value, consumers will be unwilling to pay more for the bundle than they would to purchase the products separately. Thus the bundle is unlikely to increase the combined price the firm can realise for the two products. In any case, even if the act of

[10] See Whinston (1989) citing Director and Levi (1956), Bowman (1957), Posner (1976) and Bork (1978), at page 1 and Bowman at page 2. See also Jacobs (2001), Carlton and Waldman (2002), Bakos and Brynjolfsson (1996), Einhorn (2002) and Weinberg (1996).

bundling adds value, the multi-product firm could realise this by offering a bundle ***in addition to*** individual products.

For these reasons many commentators have argued that the monopolist cannot expect to increase overall profitability through an anticompetitive tying strategy of this nature. If the multi-product firm faces competition in the market for the tied product, consumers will impute the value of the tying product and the firm can be no better off than it could be by supplying the products both individually and in bundled form. Thus, this type of market power leveraging has largely been discounted as a motivation for tying.[11]

An exception to the claim that firms are unable to increase their overall profits by tying may occur if the tying strategy provides efficiency benefits, as outlined above. In this case, the tying strategy would be considered competitive rather than anticompetitive – since the only way the firm is able to improve its overall profitability is as a result of realising efficiency gains, which is consistent with what could be expected in a competitive market. Under these circumstances, the strategy should not be a concern for competition authorities.

4.1.2. Tying to exclude competitors from the tied market

A second theory suggests a multi-product firm could use tying in an anticompetitive manner to deter potential entrants from competing in the tied market. The multi-product firm is able to do this by "capturing" the sales of customers who wish to purchase both the tying and the tied goods, thus reducing rival firms' addressable market. Under this theory, the multi-product firm's objective is to foreclose competitors' sales of the tied product in order to reduce their profits below feasible levels (without necessarily reducing the market price) such that rivals either exit the market or are deterred from entering it in the first place. This would effectively leverage a dominant position in one market into a second market.

Several conditions are required for a tying strategy to be considered anticompetitive in this way:

- the products should be clearly separable, that is, they should be two distinct products rather than two components of a single product (for example, a car is generally considered a single product rather than a bundle of individual products, such as engine, wheels, chassis, etc);
- the firm must have market power in the provision of the tying product, such that consumers cannot bypass the multi-product firm;
- a sufficient proportion of consumers in the market for the tied product must also be willing to purchase the tying product, otherwise the tie-in will be unlikely to capture a substantial enough proportion of rivals' sales to have a harmful effect (thus

[11] See Jacobs (2001)

consumers preferences for the service that is provided only by the multi-product firm must be sufficiently strong);[12] and

- the tying strategy cannot be justified by efficiency or quality improvements that (at least) outweigh any detrimental impact on competition.

The theory of tying being used within an anticompetitive strategy of this nature has received some attention in the economic literature. A number of commentators have set out to establish the conditions under which tying could be used profitably to foreclose rivals' sales in order to eliminate competitors from the market for the tied product. Most of these studies are based on specific models, implying that not all of the results are relevant to the situation we are interested in for this paper. However, it is possible to draw some broad conclusions and to make inferences from these papers that are relevant to the situation the Commission is interested in. The following discussion therefore briefly considers the main conclusions from a number of articles discussing tying in this context.

Whinston[13] provides one of the earlier studies suggesting that this form of leveraging is feasible. The main objective of this paper was to show that tying could be used to leverage a firm's market power from one market to another in order to eliminate rivals and, ultimately, increase profitability. He noted that much of the analysis that had refuted the leverage argument up to that point assumed the tied product was provided in a perfectly competitive market. Whinston assumes that the provision of the tied good exhibits economies of scale (due to fixed costs) and is therefore supplied in an oligopolistic market. He demonstrates that, under certain conditions,[14] tying can reduce rivals' sales of the tied good to the extent that their continued operation is unprofitable, thereby forcing them to exit the market even if they are equally as efficient as the multi-product firm. The assumption of fixed costs implied that rival's profits can be reduced by limiting their sales, without any reduction in prices.

Under Whinston's assumptions,[15] tying may be profitable for the multi-product firm in the longer term even if it reduces profitability in the short-term, as long as the tie results in successful exclusion of rivals from the market. In this way, he notes that dynamic considerations become important. For example, even when tying is not profit-maximising in

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12 If only a small percentage of customers purchase a bundle, its provision is unlikely to have a negative impact on competitors – it would therefore be difficult to conclude that the tie-in is anticompetitive.

13 Whinston (1989)

14 These conditions relate to the level of fixed costs relative to the proportion of consumers who value the tying good sufficiently highly to purchase the bundle.

15 The model specifications Whinston uses are very specific, implying that some of the conclusions may not be relevant depending on the particular assumptions they rely on and the situation the Commission is interested in. However, the objective of his paper is to illustrate the potential for tying to be used in this form of anticompetitive strategy. This is the case with many of the papers on this subject. It is for this reason that we have only briefly considered a sample of the papers here and drawn out some very high level conclusions that are applicable for our purposes.

a static sense, if rivals face financial constraints that limit their ability to sustain losses, the multi-product firm could use tying to lower rivals' sales and profits, thereby increasing the likelihood they will be forced to exit the market.

However, Whinston notes that even if tying successfully reduces competitors in the market for the tied product, it still may not be a concern for competition authorities if the overall impact on welfare is positive. He was unable to conclude that tying would have a negative impact on welfare. The results of his model suggest that the elimination of rivals would make consumers worse-off (since prices would rise and product diversity fall) but would also provide efficiency gains in the form of avoided fixed costs (in other words, the assumption of fixed costs means it is more efficient for the market to be supplied by just one firm, ie, a monopolistic market).[16] Whinston noted that the net impact of these two effects would depend on the nature of the market. Furthermore, he noted that his model did not account for other possible motivations for tying that could increase the potential benefits, such as promoting new products with network characteristics, which may lead to consumers also being better off in the longer term.

Whinston's major conclusions have been supported by a number of commentators. For example, Carlton and Waldman[17] extend his analysis, focusing on the importance of entry costs and network externalities.[18] While the assumptions underlying Carlton and Waldman's model mean that not all their results are relevant for our analysis (as was also the case for Whinston's paper), two main findings can be drawn from their study. The first is that when the tied product is characterised by network externalities (such that the value of the product increases the greater the number of customers purchasing it from the same firm), then tying can be used to foreclose rivals' sales to the extent that it is not profitable for them to enter the market, even when entry or fixed costs are relatively low.

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16 Whinston also found that tying could benefit consumers by allowing price discrimination. However, tying in his model was price-based, such that the firm was said to be tying when it set the price of the bundle lower than the aggregated price of individual products. This is not the form of tying we are most interested in this section of our paper, as it has been dealt with previously. Therefore, the benefits of price discrimination Whinston refers to do not result from the tie as defined here.

Whinston also assumed that consumption of the two products occurred concurrently and on a one for one ratio, as they were two components in a system. Thus, if the multi-product firm, with a monopoly in product A, could have tied sales of B to A in the manner we are interested in, the firm would have perfectly foreclosed rivals' sales – there is no market for B without A and one unit of B is required for each unit of A. Tying of the nature we are interested in would have effectively reduced markets A and B to a single market, which would be an extreme assumption. Thus, while the central conclusions from Whinston's paper are relevant and enlightening, in that they show the importance of dynamic considerations and the possibility that a firm could use tying in this way, they must be interpreted with care in our context.

17 Carlton and Waldman (2002)

18 Carlton and Waldman consider both "technical" and "virtual" tying. Technical relates to the situation where the use of the complementary product requires the purchase of the tying product whereas virtual tying occurs through price signals, ie, a large discount on the bundled products. The implications of virtual tying have effectively been addressed in section 2 of this paper, which consider anti-competitive pricing strategies. For the purposes of this analysis, technical tying will have similar effect to the provision of the tying product only in the bundle.

A second relevant conclusion from Carlton and Waldman's paper is that, like Whinston, they find that the welfare implications of tying strategies are unclear and that it is important to assess whether the consumer and efficiency benefits of the bundled package justify its introduction. This suggests that assessing whether tying constitutes anticompetitive behaviour will require detailed analysis of the tradeoff between efficiency benefits and the effects of any harm to competitors. Such a tradeoff will depend on the specific characteristics of the relevant market(s).

Martin[19] obtains similar results, concluding that tying can be used to reduce rivals' sales and therefore profits and (under certain circumstances) drive them from the market. Martin is also unable to establish that tying will necessarily reduce net social welfare. Rather he concludes that tying could increase quality or reduce marginal or fixed costs to the point where these benefits outweigh any detriment to consumers resulting from reduced competition.

Bakos and Brynjolfsson[20] also arrive at similar conclusions in their consideration of the effects of tying in the context of information goods with very low marginal costs. They show that providing information goods only in bundles can strengthen the position of an incumbent and discourage entry, even when such entrants have a superior cost structure or quality.[21]

In summary, although the results from various academic papers should be interpreted with care, given the specific assumptions upon which they are based and the situation the Commission is interested in, three general conclusions can be drawn from the literature on tying as a leveraging strategy:

- tying can be used as part of a competitive strategy, to improve efficiency or quality in a market;
- however, a firm with market power in the provision of one product could use a tie-in to reduce rivals' sales to the point where it is no longer profitable for that rival to remain in (or to enter) a market – this could be the case even when the rival would be

19 Martin (1998)

20 Bakos and Brynjolfsson (2000)

21 Bakos and Brynjolfsson's study was undertaken in the context of the market for information provided via the internet. They found that bundling could create "economies of aggregation" for information goods if marginal costs are low, even in the absence of network externalities or economies of scale and scope. This result relies on the predictive values of bundling – when the firm provides a large range of information products, which are not complementary and for which it is difficult to assess consumers preferences for individual products, then bundling improves the firm's ability to determine consumers' valuation.

The particular market this paper focuses on is not directly comparable to the situation the Commission is likely to be interested in (in fact, we did not find any theoretical papers that could be considered directly comparable and which could be used to develop "rules" for assessing the impact of behaviour on rivals and markets). However, like the other illustrative studies mentioned here, some broad conclusions can be drawn from this analysis.

profitable if the multi-product firm does not employ a tying strategy or where that rival has an equally efficient cost structure; and

- even if a tie-in mechanism eliminates rivals from the market and effectively leverages the multi-product firm's power across markets, this does not necessarily imply a reduction in overall welfare and therefore may not be anticompetitive (in the sense that anticompetitive behaviour is inconsistent with behaviour that may be expected in a competitive market environment and so makes consumers worse off in the long term) – ***a priori***, the impact depends heavily on facts that are specific to the market in question.

The combination of these conclusions suggests that tie-in arrangements will not always be anticompetitive and that each will need to be considered in the context of the markets in which they are occurring. For this reason, it is more useful to consider how such arrangements are assessed in other jurisdictions than to try to develop general rules, as was possible for assessing vertical price squeezes.

4.2. Assessing Whether Tying Constitutes Anticompetitive Behaviour

Tying is considered an "exclusive dealing" and may be prohibited under either section 46 or 47 (and therefore also section 151AJ) of the TPA if it has the purpose or likely effect of substantially lessening competition in a market in which either party supplies or acquires goods or services. Thus there is no presumption under the TPA that tying is anticompetitive ***per se***.[22] Rather, courts (or the Commission) must determine whether the behaviour substantially lessens competition or whether it is efficiency enhancing (especially given the provisions of section 151AS that require the Commission to consider the net public benefit). That said, the Trade Practices Commission, in its background paper ***Misuse of Market Power: Section 46 of the Trade Practices Act***[23] identified tying as one of six types of conduct likely to breach section 46 because it could be carried out by firms with no need to consider smaller rivals and because it could not be engaged in profitably if the market were competitive. The Commission[24] has also noted that bundling in the telecommunications market may substantially lessen competition if a company ties the provision of a service it faces competition on to a service in which it has substantial market power.

Tying arrangements have received considerable attention in the US (perhaps most notably in the recent ***Microsoft*** case), where they may be deemed ***per se*** illegal or fall under a "rule of reason" approach. Rule of reason approaches require detailed assessments of the potential

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22 However, if a tying arrangement requires that a consumer must also purchase a product from another firm, this could constitute "third line forcing", which is per se illegal under section 47 of the TPA. Companies are able to avoid this problem by bundling both products into one offering, which then becomes "full line forcing" and is only an offence if it substantially lessens competition.

23 See Steinwall (2000), page 113 to 114

24 ACCC (1999), page 47

benefits and detriments to consumers resulting from the alleged anticompetitive behaviour. Generally, they are therefore considerably more detailed and resource intensive to determine than ***per se*** offenses.

Many commentators point out that, as a matter of economics, even firms with market power may employ tying arrangements that are competitive.[25] For instance, tying may promote competition by providing distribution efficiencies, providing greater control over the quality of complementary products, improving market penetration, encouraging innovation, etc. It is for this reason that almost all US commentators, and a growing number of courts, believe there should be a requirement to show that a tying arrangement involves anticompetitive impacts before it is condemned. Reflecting this view, even the application of the ***per se*** rule requires the findings of both market power and a lessening of competition in the market for the tied product, making the test closer to a rule of reason inquiry than to an automatic condemnation.[26] US courts have developed a test for determining whether tying should be considered ***per se*** illegal, which includes the following requirements:[27]

- the tying and tied products must be separate and distinct;
- there must be "actual coercion" applied by the seller to force the buyer to accept the tied product;
- the seller must have sufficient power in the market for the tying product to enable it to coerce buyer acceptance of the tied product; and
- there must be proof of anticompetitive effects in the tied market.

A tying arrangement that does not meet all the elements of a ***per se*** violation may still constitute an unreasonable restraint of trade under the US's rule of reason approach if the negative implications for competitors more than outweigh efficiency benefits (and therefore the potential long run benefits to consumers). This is arguably closer in nature to the analysis that would be required under the TPA, especially given the effects test provided for in section 151AJ and 151AK (and the provisions of section 151AS).

The rule of reason approach involves two stages. First the defendant must be shown to have the requisite market power in both the relevant product and geographic markets. Second, the court must determine whether the net effect of the restraint on competition is measurably and substantially adverse.[28] The legality of tying will then depend on its economic effect. For example, in ***Jefferson Parish*** Justice O'Connor stated that a tie-in should

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[25] See Jacobs (2001), Carlton and Waldman (2002), Bakos and Brynjolfsson (1996), Einhorn (2002), Weinberg (1996).

[26] See, for example, Jacobs (2001), McDavid (1996), Queen (1997).

[27] Jacobs (2001), page 2, notes that the test varies slightly from one federal circuit to another.

[28] See McDavid (1996) for a discussion of the application of rule of reason analysis to tying in the US.

be condemned only when its anticompetitive impact outweighs its contribution to efficiency.[29]

The FTC has also applied a "quick look" approach to assessing tying arrangements, which uses a standard falling somewhat between a ***per se*** analysis and a rule of reason analysis. In the Federal Trade Commission's opinion regarding ***California Dental Association***, Chairman Pitofsky articulated such an approach, which involved:[30]

- evaluating the likely anticompetitive effects of the restraint;
- determining whether the party imposing the restraint has market power, which helps inform an understanding of competitive effects; and
- examining whether the restraint is justified by efficiencies.

US courts have also established a number of defenses against allegations of anticompetitive tying practices, mainly relating to technical tying, for example tying arrangements may not be unlawful if:[31]

- implemented for legitimate business reasons and no less restrictive alternative is available;
- necessary to allow a new business to break into the market;
- there is a need for compatibility with technologically sophisticated equipment used by a non-dominant firm; and/or
- specifications for alternative products would be so detailed, complex or burdensome that substitutes would not be practicable.

Perhaps the most notable recent tying case is that of ***United States versus Microsoft***. The Court of Appeal's decision in this case refocused assessments of tying arrangements onto the competitive effects. The Court expressly acknowledged that product integration could have procompetitive effects, providing an exception to the application of the ***per se*** standard where a defendant offers a plausible pro-competitive argument for tying.[32] The Court concluded that in some cases a ***per se*** analysis may overlook plausible efficiencies and lead to incorrect results. Knight and Averill write:[33]

> ***"Under the rule of reason analysis mandated by the appeals court, a court is expected to scrutinize a product design decision, balancing the competitive harm of integration***

[29] McDavid (1996), page 105

[30] McDavid (1996), page 18

[31] See McDavid (1996), page 109 onwards.

[32] See Brumfield (2001), Knight and Averill (2001).

[33] Knight and Averill (2001), page 5

against benefits to consumers. The language of the decision suggests that Microsoft will be called upon to demonstrate specific technical or consumer interests served by bundling products, while plaintiffs will be required to demonstrate specific harm."

The above discussion suggests that there is unlikely to be a unique "rule" or approach available to the Commission to determine whether a tying arrangement in the telecommunications market can be deemed anticompetitive. Instead, the assessment is likely to require consideration of any claims of efficiency gains or competitive motivations for the tie-in in addition to a consideration of the impact on competitors.

Such an approach is supported throughout the literature. For instance, Carlton and Waldman note that a bundle could have additional benefits over and above the provision of separate services and that these benefits may be sufficient to justify the tie.[34] Evaluating whether such a practice should be considered anticompetitive will therefore involve the analysis of a complex tradeoff. Carlton and Waldman suggest that considerable weight should be given to plausible efficiencies of the tie and that evidence on a firm's motivation can also provide useful information. Jacobs also notes that while foreclosure theories are economically plausible, assessing ties in this context requires close examination of barriers to entry and the percentage share of the market foreclosed by the tie.[35] He goes on to note that assessing whether a tie-in should be condemned necessarily entails detailed inquiries into market power and anticompetitive effects.

4.3. Case Study – Broadband Internet Access

In the US, there has been an ongoing debate as to whether there should be "open access" to cable modems. Under open access, the use of the infrastructure would be available to all internet service providers (ISPs) at terms which ensure such providers are not disadvantaged relative to the cable modem provider. However, rather than providing open access, cable operators have tied the provision of their internet services to the provision of broadband "last-mile" data transmission services. Under these arrangements, a consumer wanting to use another ISP must pay for both the cable operator's internet service and the alternative service. Cable operators have argued that they would not find it economical to invest in last mile high-speed data transport unless they tie internet access and other services with last mile high speed data transport. On this basis they argue that open access would result in a reduction in economic efficiency and consumer welfare through higher prices and decreased choices.

[34] Carlton and Waldman (2002)

[35] Jacobs (2001)

In 1999, this issue was the focus of papers by Owen and Rosston[36] and by Hausman[37] in the American Bar Association's ***The Party Line***.

Owen and Rosston argued that it was unreasonable to suppose cable operators had market power with respect to a service that, at that point, had hardly any customers and for which telephone companies and others offered competing services. They focused their analysis of economic efficiency on the issue of investment incentives and argued that forced unbundling would reduce cable companies' returns, or increase their risk, and thus reduce investment. They concluded that this would reduce the pace of telecommunications infrastructure construction and thus be undesirable. In their view, the cable operators' tying strategy should not be considered anticompetitive.

In contrast, Hausman disagreed with the cable companies arguments, instead concluding that consumer welfare and economic efficiency would likely be greater if the Federal Communication Commission (FCC) did not permit the tying of ISP to broadband cable last mile transmission services (this would not preclude companies offering bundles in addition to separate services). While he concurred with cable companies that a restriction on tying would likely decrease their profits and may reduce their incentives to invest, he did not consider that this automatically equated to a reduction in overall welfare.

Hausman suggested that overall welfare should be measured by either consumer welfare or economic efficiency (approximately measured as the sum of consumer and producer surpluses). He argued that consumer welfare would be lower if cable operators were allowed to tie because prices would be higher and consumer choice would be reduced. In fact, he suggested that tying would only improve consumer welfare if cable companies could not otherwise charge a sufficiently high price for broadband transport to earn a rate of return that would encourage investment. In Hausman's opinion, this situation would be unlikely. Hausman further concluded that the likely decline in consumer welfare would not be offset by the increase in cable operators' profits and that tying would therefore also reduce economic efficiency.

The competing positions on whether there should be open access to cable modems is no closer to being resolved in the intervening three years since the Hausman/Owen-Rosston debate. In an environment where the service in question (broadband access) is new,[38] investments required to expand service potentially large and uncertain, and competing technologies are available, vertical integration may well be necessary for the continued growth of such services. In these situations, the important public policy issues may not be

36 Owen and Rosston (1999)

37 Hausman (1999)

38 Currently the proportion of households with high-speed internet access services (primarily cable modem and DSL) is in the low double digits. In 1999, only about 2 per cent of households subscribed to any broadband access.

whether bundling should be restricted, but whether regulators treat providers of alternative forms of access symmetrically.[39]

4.4. Contractual Requirements as a Form of Tying

There may be concerns regarding contractual requirements that reduce rivals' sales by "coercing" consumers into agreeing to purchase additional services over time in order to purchase a particular product. This may be cause for concern if bundled packages lock consumers to a carrier for a certain period of time, ie, through specified contract lengths. For example, there may be concerns if a firm with a monopoly in the provision of home cable connections required an unreasonable period of purchase of cable television and/or internet services as a condition of supply of the connection. In this context, it can be seen that such contractual requirements represent a form of tying, where the tied service is purchased over time rather than concurrently with the tying product. One of the most notable cases of tying in the US involved Kodak's requirement that purchasers of its photocopying machines also purchased post-sale servicing from Kodak.

In most cases, such contracts can be seen to be a way for the integrated firm to recoup initial costs without requiring a substantial up-front payment, which consumers may find unpalatable. However, problems may arise when the integrated firm does not offer consumers the choice of making an up-front payment[40] and has used its market power in the provision of one service for the express purpose of foreclosing competitors' sales of the tied product in order to harm competition.

Analysing whether a contract has an anticompetitive effect should therefore follow the same logic as assessing whether tie-in arrangements have an anticompetitive effect, as outlined above. Furthermore, they should be assessed at the point at which they are entered into, rather than considering their subsequent implications. Areeda[41] argued that in assessing contracts, the relevant focus should be on the point in time when the consumer had a choice as to whether to enter the contract or not. He concluded ***"we should measure the tying seller's power at the time that the tie-in agreement came into existence."***[42]

4.5. Summary

The major antitrust concern in relation to tying of the type we are interested in for the purposes of this paper, is that these strategies may be used unfairly to limit the sales

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39 In the US, while cable modem providers are still effectively unregulated, incumbent telephone companies providing high-speed DSL access not only must provide "open access" to ISPs, but also are subject to providing wholesale access to high capacity facilities to other firms.

40 An alternative may be that the cost difference is prohibitive, which can be assessed through the application of imputation tests.

41 Areeda (1991)

42 Areeda (1991), page 102

available to competitors. In some cases, it may even be possible for a multi-product firm to eliminate rivals from a market (or prevent them entering that market).

However, there are numerous competitive reasons a firm may engage in tying behaviour. For this reason, assessing whether tying is anticompetitive requires detailed consideration of the impacts on both efficiency and competitors that result from the tying strategy. This will necessarily involve consideration of the specific characteristics of the relevant markets and the multi-product firm's rivals.

The wording of sections 151AJ and 151AK together with the provisions of section 151AS, imply that an approach similar to the US rule of reason methodology is likely to be relevant for assessing tying arrangements under Australian competition law. Such analysis will most likely involve consideration of:

- whether the tied products are separable and distinct;
- the market power of the tying firm;
- the efficiency or quality arguments raised by the tying firm; and
- the potential or likely implications of the tie on competitors and whether these effects are due to behaviour that is consistent or inconsistent with what could be expected within a competitive market.

5. CONCLUDING REMARKS

The Commission has expressed a concern that when rivals are unable to supply all of the products an integrated carrier could supply, the integrated carrier may be able to reduce the addressable market of rivals through bundling strategies. We have therefore considered the conditions under which a bundling strategy that reduces rivals' addressable market could be deemed anticompetitive.

We found it useful to first consider how the provision of the bundle could reduce rivals' sales, noting that consumers will have an incentive to purchase the bundle if:

- there is a price difference between purchasing the services as a bundle and purchasing them individually from separate providers;
- consumers value the convenience of the bundle such that the price of purchasing products individually would need to be lower than the price of purchasing the bundle to encourage them to do so; or
- consumers are unable to purchase a particular service outside the bundle (tying), this could include contractual requirements that lock consumers into purchasing services over time.

The first two points relate to price differentials and thus can be assessed through the imputation tests discussed in our companion paper or predation tests. We have therefore not focused on these types of bundling strategies in this paper. Instead, this paper focuses on tying arrangements.

Tying arrangements could be anticompetitive if they are used for the purpose of reducing competitors' sales in an attempt to eliminate such rivals from the market. However, there are many competitive reasons a firm may engage in tying. For this reason, assessing tying arrangements is likely to be complicated, requiring detailed examination of the specific effects of the arrangement in the context of the relevant markets. It is therefore not feasible or sensible to develop "rules" for assessing tying arrangements along the lines of those developed for assessing vertical price squeezes.

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