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A Pragmatic Approach to Identifying and Analysing Legitimate Tying Cases

Abstract

There is a wide and growing consensus among antitrust scholars and practitioners in favour of a rule-of-reason approach to the assessment of tying by dominant firms. However, a rule-of-reason analysis may or may not produce socially optimal outcomes depending on how it is conducted in practice. A rule-of-reason test that places the same weight on factual evidence as on theoretical speculation is bound to cause as much harm as a rule that considers tying *per se* illegal: many socially beneficial ties will be found illegal. This paper discusses how best to implement a rule-of-reason approach. We consider two alternatives, a simple balancing test and a structured test, and conclude in favour of the structured test, as it is less likely to lead to costly mistakes.

A. Introduction

Judging from the recent case law on both sides of the Atlantic, one might be tempted to infer that tying must often be socially detrimental. Otherwise, what would justify the hyperactivity exhibited by the EU and US competition authorities in connection with this rather common business practice? And how can the *per se* illegality approach, which by and large characterises current EC and US competition law with respect to tying, be justified?

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In Europe, for example, the Commission's decisions blocking the *GE/Honeywell*¹ and *Tetra Lavall/Sidel*² mergers were based in part on concerns about the possibility that the merging parties would use their widened product lines to offer attractive 'bundles' that would place their competitors at a disadvantage. In the US, some of the most prominent antitrust cases of recent years have focussed on the legitimacy of tying when undertaken by firms with market power. Tying was one of the central concerns of the US Department of Justice in its suit against Microsoft,³ and was also at the heart of the suit brought by Wal-Mart and other US retailers against VISA and MasterCard.⁴ In addition, the legality of 'bundled rebates' has been considered by the US 3rd Circuit Court of Appeals in *LePage's v. 3M*.⁵

Is this hostile policy towards tying justified? Is *per se* illegality, as applied in the US and the EU, the right legal standard when considering tying by firms with market power? The most recent literature on the law and economics of tying suggests that the answers to both questions are in the negative. The hyperactivity of the competition authorities on both sides of the Atlantic regarding tying is far from justified. The most robust statement one can make about tying is that it is ubiquitous and generally beneficial.⁶ In light of this uncertainty regarding the effects of tying on competition, at least in the abstract, the *per se* illegality standard that competition authorities employ is difficult to defend.⁷

Modern economic reasoning supports a rule-of-reason approach to tying.⁸ The economics literature is clear that tying often improves economic efficiency,⁹ that it may be used for anticompetitive purposes,¹⁰ and that the

¹ Case COMP/M. 2220, *General Electric/Honeywell*, Commission decision of 3 July 2001, OJ C 331 [2001].

² Case COMP/M. 3345, *Tetra Lavall/Sidel*, Commission decision of 30 October 2001, OJ L 43 [2002].

³ *United States v. Microsoft Corp.*, 253 F.3d 34 (D.C. Cir. 2001).

⁴ *Wal-Mart Inc., et al v. Visa USA and MasterCard International*, U.S. District Court of New York, CV-96-5238, <<http://www.visamediacenter.com/background/complaint.asp>>, downloaded August 4, 2003.

⁵ *LePage's Inc. v. 3M*, Slip Decision in Nos. 00-1368 and 00-1473 (3rd Cir. 2003).

⁶ See D S Evans & M Salinger, *Quantifying the Benefits of Bundling and Tying*, Working Paper (2003). See also P Seabright, *Tying and Bundling: From Economics to Competition Policy*, Edited Transcript of a CNE Market Insights Event, Sept. 19, 2002, <http://www.centreforthe-neweurope.org/pub_pdf/09192002_tying_bundling.htm>.

⁷ See, e.g., K N Hylton and M Salinger 'Tying law and policy: a decision-theoretic approach' (2001) 69 *Antitrust Law Journal* 469, at 470–1.

⁸ See D S Evans, A Jorge Padilla and M Polo 'Tying in platform software: reasons for a rule of reason standard in European competition law' (2002) 25 *World Competition* 509; C Ahlborn, D S Evans and A Jorge Padilla 'The antitrust economics of tying: a farewell to *per se* illegality' (2003) *Antitrust Bulletin*, Section V.B. and references therein.

⁹ See, e.g., A Director and E H Levi 'Law and the future of trade regulation' (1956) 51 *Northwestern University Law Review* 281; G J Stigler *The Organization of Industry* (1968); R A Posner *Antitrust Law: An Economic Perspective* (1976); R H Bork *The Antitrust Paradox* (1978) 378–9. See also *supra* note 6.

¹⁰ See, e.g., M D Whinston 'Tying, foreclosure and exclusion' (1990) 80 *American Economic Review* 837; D W Carlton and M Waldman 'The strategic use of tying to preserve and create market power in evolving industries' (2002) 33 *RAND Journal of Economics* 194.

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motive for it is sometimes price discrimination with generally ambiguous implications for economic welfare.¹¹ Theory by itself only says that tying practices might have both anticompetitive and pro-competitive effects and, consequently, that they might be inefficient sometimes and efficient at other times. The consensus among economists is that one must conduct a detailed investigation of the facts of the case at hand to conclude whether tying is indeed harmful or beneficial.¹² Such investigation is best conducted under a rule-of-reason standard where both the potential pro- and anticompetitive effects of tying are rigorously balanced in light of the appropriate factual evidence.

The rule-of-reason approach to tying has found new support in a recent report prepared for the UK Department of Trade and Industry by Professor Nalebuff and co-author David Majerus.¹³ This report will do much to refine thinking about tying and bundling. Nalebuff and Majerus evaluate eleven antitrust and merger cases from various jurisdictions where the legality of bundling and tying practices was thoroughly examined.¹⁴ They find that in three of those cases the competition authorities incorrectly concluded that tying was illegal when, in fact, it was not harmful to consumers.¹⁵ In none of

¹¹ See D W Carlton and J M Perloff *Modern Industrial Organization*, 3rd ed. (Addison-Wesley, 2000)

¹² See Carlton and Waldman, above n ; and Hylton and Salinger, above n .

¹³ B Nalebuff and D Majerus, *Bundling, Tying and Portfolio Effects*, DTI Economics Paper No. 1, Part 2—Case Studies (February 2003).

¹⁴ While Nalebuff and Majerus actually examine thirteen separate cases, two are about different aspects of the *GE/Honeywell* merger, and one had not been decided when the report was published so we exclude it, leaving eleven cases. These eleven are: “Tetra Pak International” (*Tetra Pak II*, Commission Decision 92/163/EEC, 1992 OJ L 72/1; Case T-83/91 *Tetra Pak II* [1994] ECR II-755); “Tying and the HILTI case study” (*Eurofix-Bauco v. Hilti*, Commission Decision 88/138/EEC, 1988 OJ L 65/19; Case T-30/89 *Hilti AG v. Commission* [1990] ECR II-163; Case C-53/92 P *Hilti AG v. Commission* [1994] ECR I-667); “GE-Honeywell merger” (Case COMP/M. 2220, *General Electric/Honeywell*, Commission decision of 3 July 2001); “Independent Service Organisations v. Kodak” (*Independent Service Organizations v. Kodak*, 504 U.S. 451 (1992)); the “Aspen Case” (*Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985)); “Guinness and Grand Metropolitan merger” (Case IV/M.938, *Guinness/Grand Metropolitan* (98/602/EC)); “Interbrew and Bass merger” (United Kingdom Competition Commission on the Interbrew SA and Bass PLC transaction, “A report on the acquisition by Interbrew SA of the brewing interests of Bass PLC”, January 2001); “SMG SRH—Scottish Radio case” (“Completed acquisition by SMG plc of 29.5% shareholding of Scottish Radio Holdings plc,” Report under section 125(4) of the Fair Trading Act 1973 of the Director General’s advice to the Secretary of State for Trade and Industry under section 76 of the Act, 21 June 2001); “Foreign package holidays and insurance” (*Foreign Package Holidays: a report on the supply in the UK of tour operators’ services and travel agents’ services in relation to foreign package holidays*, United Kingdom Monopolies and Mergers Commission, Cm 3813, 19 December 1998); “BT telephone and internet bundling” (*Investigation by the Director General of Telecommunications into the BT Surf Together and BT Talk and Surf Together pricing packages*, OfTel, 4 May 2001); “Jefferson Parish Hospital” (*Jefferson Parish Hospital Dist. No. 2 et al. v. Hyde*, 466 U.S. 2 (1984)).

¹⁵ *Eurofix-Bauco v. Hilti*, Commission Decision 88/138/EEC, OJ L 65 [1988]; Case COMP/M 2220, *General Electric/Honeywell*, Commission decision of 3 July 2001, OJ C 331 [2001]; United Kingdom Competition Commission on the Interbrew SA and Bass PLC transaction: “A report on the acquisition by Interbrew SA of the brewing interests of Bass PLC”, January 2001.

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those cases, however, did the authorities conclude incorrectly that tying was socially beneficial when it was not. That is, while there is evidence of 'false convictions,' there is no evidence of 'false acquittals.' Moreover, in seven of the eleven cases—that is, in 64% of the sample—tying was not harmful to consumers.¹⁶

From this report, one can draw the following policy implications: (a) the observed hostility towards tying is unjustified, since even tying that has been challenged is often welfare-enhancing; (b) a *per se* illegality approach to tying, whether in its strict or modified versions, makes no economic sense, as it often leads to the prohibition of beneficial tying practices; (c) the analysis of the competitive impact of tying and bundling requires a balancing of efficiencies and possible anticompetitive effects—that is, it demands a rule-of-reason approach.

In this paper, our goal is to move the debate on tying forward by considering how best to implement a rule-of-reason standard in practice. We show that the success of a rule-of-reason approach depends on how it is conducted in practice and depends, most importantly, on the weight attributed to the facts of the case under analysis.

We discuss two alternative ways of implementing a rule-of-reason standard in tying cases: a *balancing test* and a *structured test*. The former is a simple cost-benefit test, where the social costs and benefits of the defendant's tying practices are balanced in one step. The structured rule-of-reason test involves three stages.¹⁷ The first two stages screen out ties that could not be anticompetitive given the facts of the case. The last stage balances the anticompetitive and pro-competitive effects of those ties that survive the first two screens.

We compare the relative strengths and weaknesses of these two tests, and conclude in favour of the structured rule-of-reason approach. This conclusion is based on a simple decision—theoretic calculation: a structured rule-of-reason approach to tying reduces the likelihood and the burden of costly mistakes. The structured rule-of-reason test dismisses cases when the market structure insures that whatever anticompetitive effects could arise are smaller than the imprecision of the models we might use to detect them. It also takes the possibility of efficiencies seriously.

¹⁶ *Eurofix-Bauco v. Hilti*, Commission Decision, *supra* note no. 15; *General Electric Honeywell*, *supra* note no. 15; United Kingdom Competition Commission on the Interbrew SA and Bass PLC transaction, "A report on the acquisition by Interbrew SA of the brewing interests of Bass PLC", January 2001; "Completed acquisition by SMG plc of 29.5% shareholding of Scottish Radio Holdings plc," Report under section 125(4) of the Fair Trading Act 1973 of the Director General's advice to the Secretary of State for Trade and Industry under section 76 of the Act, 21 June 2001; "Foreign Package Holidays: a report on the supply in the UK of tour operators' services and travel agents' services in relation to foreign package holidays," United Kingdom Monopolies and Mergers Commission, Cm 3813, 19 December 1998; "Investigation by the Director General of Telecommunications into the BT Surf Together and BT Talk and Surf Together pricing packages", OfTel, 4 May 2001; *Jefferson Parish Hospital Dist. No. 2 et al. v. Hyde*, 466 U.S. 2 (1984).

¹⁷ This test was first proposed in Ahlborn, Evans and Padilla, above n .

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This paper is organised as follows. In Section II, we briefly review the economics of tying and explain the reasons why economic theory supports a rule-of-reason approach to tying. In Section III, we summarise the evidence in the Nalebuff–Majerus study and explore some policy implications. In Section IV, we consider alternative implementations of a rule-of-reason approach to tying and articulate the reasons why a structured rule-of-reason approach is most desirable. Section V presents the main conclusion of this paper, while Section VI opens a new direction for further thought.

B. The Simple Economics of Tying

The economic literature has explained why tying can provide increased convenience and lower transaction costs. The same literature has also clarified the situations in which tying may give rise to anticompetitive effects. Unfortunately, the literature does not provide much guidance on exactly how to distinguish competitive from anticompetitive tying. Consequently, while sound economic analysis will always be key to identifying valid tying cases, it is important to recognise that economic theory does not yet provide unambiguous answers about the appropriate treatment of individual cases.

1. Efficiencies and Convenience

Tying can lower costs and promote convenience (for both producers and consumers). Tying may (a) create economies of scale and scope in production and distribution¹⁸; (b) reduce the costs of searching for the most appropriate combination of products that satisfy a complex need¹⁹; (c) give rise to new or improved products and services²⁰; (d) help manufacturers ensure quality²¹; and (e) lead to lower prices when the tying and tied products are complements.²²

This rationale—ie, lower costs and enhanced convenience—is virtually always mentioned as a candidate explanation for tying, and it is often

¹⁸ See, e.g., S J Davis, K M Murphy and J MacCricken 'Economic perspectives on software design: PC operating systems and platforms' in D S Evans, (ed) *Microsoft, Antitrust and the New Economy* (2002).

¹⁹ See Evans, Padilla and Polo, above n.

²⁰ See, e.g., Amil Petrin 'Quantifying the Benefits of New Products: The Case of the Minivan' (2002) 110 *Journal of Political Economy* 705, at 728.

²¹ See Posner R., above n 9.

²² See A Cournot *Recherches sur les Principes Mathématiques de la Théorie des Richesses* (1838), and Jean Tirole *The Theory of Industrial Organization* (1988) at 333–5.

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conceded that it is the most common explanation. However, there is some tendency for the importance of cost and convenience advantages to be neglected or obscured. For example, one might argue that while there are no doubt advantages to tying for consumers who want all components of the tie, there is no reason why those components could not be sold separately as well for those consumers who do not want all of those components. Such an argument misses a fundamental point about the basic economics of tying, namely, the savings that result from the joint manufacturing and joint distribution of products and services.

In the absence of economies of scale and scope, competition would result in firms offering products that meet each customer's ideal specifications. When scale and scope economies are present, however, the production and distribution of a number of distinct product offerings becomes disproportionately costly. In those circumstances, tying can arise under competition even though some customers feel forced to accept components they do not want.

A simple example is that most restaurants tie bread with meals. The restaurant market in many areas is highly competitive. Not everyone wants bread with meals and certainly people vary with respect to how much bread they want. Yet charging separately for bread would likely increase transaction costs by more than the potential savings. Because of fixed costs associated with each product offering, companies operating in a competitive environment cannot afford to tailor their offerings to the tastes of each individual customer.

One difficulty in assessing the benefits from tying is that these benefits often entail savings in transaction and organisation costs, which are harder to measure and easier to dismiss than production costs. Their significance in extreme cases is, of course, obvious. We know of no one who seriously suggests that newspapers in the United States should be unbundled (by section) or that European newspapers should have physically separate sections to facilitate such unbundling. Newsstands would have to maintain piles of individual sections rather than a single pile of complete papers. The virtually instantaneous transaction that now occurs for, say, €1 would require the seller to calculate a transaction price and make change for it. For daily subscribers, the paper would have to maintain a database not only of who subscribes but also of what parts of the paper they subscribe to. Rather than having a pile of newspapers to distribute, the deliverer would have to make sure to deliver the customised edition to each house. To support the sale of advertising, the newspaper would have to maintain audited accounts of the sales of each section rather than of the newspaper as a whole. Given how little is charged for a daily newspaper, even very modest increases in the time needed to process the transactions would obviously dwarf the benefits from unbundling.

What is true for newspapers is also true in general. Every company must decide precisely what product to offer and on what terms. These choices are typically a small subset of the products that could conceivably be offered.

2. Exercising, Preserving, and Extending Market Power

Tying practices have also been characterised as either pricing strategies to extract more rents from consumers, or as means of extending or preserving monopoly power.²³

Tying for *price discrimination* purposes has generally ambiguous welfare effects. The goal of price discrimination is to capture what would otherwise be consumer surplus. Demand curves can be thought of as statistical distributions of the willingness to pay. If every customer placed the same value on each unit of the good, there would be no variation in the willingness to pay and a seller could capture the entire surplus with a simple price per unit. A downward slope to the demand curve, which is of course the typical case, is the result of variation in the willingness to pay. Such variation creates a trade-off between the surplus extracted per customer and the number of customers. Tying typically lowers the variation of the willingness to pay²⁴ and, under some conditions, makes it possible to capture more surplus. Economic theory shows that price discrimination can, in principle, be pro-competitive or anti-competitive depending on its impact on aggregate output. Price discrimination is welfare-enhancing when it facilitates access to the market for consumers with lower willingness to pay.²⁵

Tying can also be used to *leverage market power* in respect of one good to another. Suppose a company has a monopoly over widgets and sells gadgets in a competitive market. By bundling widgets and gadgets, customers who want the widgets get the gadgets 'for free.' Competing gadget producers are then precluded from competing on the merits for business. Persuasive as this argument sounds at first, it is generally considered to be incomplete, as it lacks an explanation of why the widget monopolist would like to use its market power in this way rather than simply raising the price of widgets.²⁶

There has been much recent work that has argued that it is theoretically possible to answer this question. Economic theorists have shown that a firm with monopoly power in respect of the tying good might have an anticompetitive incentive to tie when the tied good market is imperfectly competitive,

²³ See, e.g., M D Whinston 'Exclusivity and tying in *U.S. v. Microsoft*: what we know, and don't know' (2001) *Journal of Economic Perspectives*.

²⁴ For example, a consumer may value a unit of product A at €10 and a unit of product B at €5, while another consumer may value A at €5 and B at €10. Product by product their preferences are highly heterogeneous, yet both consumers are willing to pay the same, i.e., €15, for the bundle.

²⁵ See Carlton and Perloff, above n 11.

²⁶ The so-called "single monopoly profit theorem" states that a firm enjoying monopoly power in one market (the market for the tying good) would not increase its profits, and indeed could reduce them, by monopolising the market for another good (the market for the tied good). This idea applies to cases where the levels of demand for the two goods are both independent and complementary, provided that the market for the tied good is competitive.

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provided that tying either deters potential competitors from entering the market for the tied product or, alternatively, helps the monopolist to preserve its market power in the tying product.²⁷ Through tying, the monopolist deprives its competitors in the tied good market of adequate scale, thereby lowering their profits below the level that would justify remaining active in (or entering, as the case may be) that market.

These theories rely on a series of highly abstract, game-theoretic models, which, depending on the underlying assumptions, often lead to contradictory predictions.²⁸ Therefore, a major challenge for antitrust enforcement is to figure out how to flesh out the details of these models in real cases. As Whinston noted in his seminal paper on tying, ‘While the analysis vindicates the leverage hypothesis on a positive level, its normative implications are less clear. Even in the simple models considered here, which ignore a number of other possible motivations for the [tying] practice, the impact of this exclusion on welfare is uncertain.’²⁹

3. Economic Theory Supports a Rule-of-Reason Standard

The recent literature on the economics of tying has drawn three main conclusions. First, tying is a common business practice that is most often efficient. Second, tying may cause anticompetitive effects, but only under restricted circumstances that are hard to verify in practice. Third, given that tying may give rise to both pro-competitive and anticompetitive effects, no *per se* rule is conceptually appropriate for antitrust assessment of tying practices.³⁰ Economic theory supports a rule-of-reason approach to tying in which the potential anticompetitive effects and efficiency benefits of tying are carefully balanced given the facts of the case. As we will see in the next Section, a rigorous reading of some of the most relevant tying cases of recent years points in the same direction.

²⁷ See, e.g., Whinston above n 12; Carlton and Waldman above n 12; Barry Nalebuff *Bundling*, Yale ICF Working Paper #99-14 (1999).

²⁸ Compare, for example, the conclusions of Whinston, above n 10, with those of J Carbajo, D De Meza and D Seidman ‘A strategic motivation for commodity bundling’ (1990) 38 *Journal of Industrial Economics* 283.

²⁹ Whinston, above n 10, at 855–6.

³⁰ See Hylton and Salinger, above n 7, at 470: “[T]he *per se* rule against tying simply has no economic foundation.”

C. A Decision-Theoretic Perspective on Nalebuff–Majerus

As noted above, in the second volume of a report prepared for the UK Department of Trade and Industry,³¹ Professor Barry Nalebuff and David Majerus evaluated eleven cases in which various tying practices were thoroughly analysed.³² Their conclusions provide valuable insights in assessing the current state of ‘tying’ law.³³ In this section, we consider the implications of these eleven case studies for the choice of an appropriate legal standard with respect to tying.

The standard decision–theoretic treatment of legal standards is to divide cases along two dimensions. One concerns the outcome of the case: *legal* or *illegal*. The other concerns the correct outcome, which we will label *harmful* or *not harmful*.

Some of the cases analysed by Nalebuff and Majerus are easy to classify along these two dimensions. The *SMG SRH–Scottish Radio* case,³⁴ British Telecom’s bundling of voice telephony with un-metered off-peak internet access,³⁵ and *Jefferson Parish*³⁶ are cases in which Nalebuff and Majerus agree with the finding by the authorities of no anticompetitive harm. *Tetra Pak II*³⁷ and *Kodak*³⁸ are two cases in which they agree with the finding that there was anticompetitive harm. By contrast, Hilti’s tying of nails to nail cartridges,³⁹ the various tying concerns in the *GE/Honeywell* merger,⁴⁰ and the merger of Interbrew and Bass⁴¹ are cases in which Nalebuff and Majerus conclude that there was no basis to justify findings of competitive harm.

The remaining cases are not so easily classified. Nalebuff and Majerus conclude that it was appropriate to ban the tying of trip insurance to vacation packages in order to make pricing transparent,⁴² but they do not see this

³¹ See above n 13.

³² See above n 14.

³³ We do not necessarily agree with all of their conclusions or classifications of the cases.

³⁴ “Completed acquisition by SMG plc of 29.5% shareholding of Scottish Radio Holdings plc,” Report under section 125(4) of the Fair Trading Act 1973 of the Director General’s advice to the Secretary of State for Trade and Industry under section 76 of the Act, 21 June 2002.

³⁵ “Investigation by the Director General of Telecommunications into the BT Surf Together and BT Talk and Surf Together pricing packages”, OfTel, 4 May 2001.

³⁶ *Jefferson Parish Hospital Dist. No. 2 v. Hyde*, 466 U.S. 2, 16 (1984).

³⁷ Case T-83/91 *Tetra Pak II* [1994] ECR II-755.

³⁸ *Independent Service Organizations v. Kodak*, 504 U.S. 451 (1992).

³⁹ *Eurofix-Bauco v. Hilti*, Commission Decision 88/138/EEC, 1988 OJ L 65/19; Case T-30/89 *Hilti AG v. Commission* [1990] ECR II-163; Case C-53/92P *Hilti AG v. Commission* [1994] ECR I-667.

⁴⁰ *General Electric/Honeywell*, above n .

⁴¹ United Kingdom Competition Commission on the Interbrew SA and Bass PLC transaction, “A report on the acquisition by Interbrew SA of the brewing interests of Bass PLC”, January 2001.

⁴² “Foreign Package Holidays: a report on the supply in the UK of tour operators’ services and travel agents’ services in relation to foreign package holidays,” United Kingdom Monopolies and Mergers Commission, Cm 3813, 19 December 1998.

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example of tying as being inherently anticompetitive. Similarly, while the UK Mergers and Monopoly Commission (MMC) banned travel companies and travel agents from forcing their customers to purchase a particular kind of insurance, it permitted them to offer ‘free’ insurance.⁴³ Thus, it did not ban tying *per se*. It simply regulated how the practice would be communicated to customers. We therefore classify this case as one in which Nalebuff and Majerus agree with the MMC that there was no harm to competition.

In *Aspen Skiing Co.*,⁴⁴ Nalebuff and Majerus find harm to competition, as did the United States Supreme Court, but they take issue with the Court’s reasoning. We place this case in the illegal/harmful category. The merger of Guinness and Grand Metropolitan raises a similar issue.⁴⁵ Nalebuff and Majerus agree that there was at least the potential for anticompetitive harm, but they criticise the European Commission’s decision to force divestiture of some brands as being too heavy-handed. We also classify this case in the illegal/harmful category.

In a tabular form, therefore, the above eleven cases can be classified from a decision-theoretic perspective as follows:

Table 1. A Decision-Theoretic Perspective on Nalebuff and Majerus (2003)

	Illegal	Legal
Harmful to competition	Four	None
Not harmful to competition	Three	Four

If, for the sake of discussion, one could take Table 1 as reflecting the actual frequency at which tying is harmful or not harmful to competition, we would draw the following conclusions:

First, there are no ‘false acquittals,’ i.e., there are no cases that were found legal while being harmful to consumers (the light shaded area in Table 1). By contrast, ‘false convictions’ do occur, i.e., cases where the practices are found illegal even though they cause no anticompetitive harm (the dark shaded area in Table 1). Assuming that each type of error is equally costly, the result would suggest that past policy has been overly restrictive.

Second, a *per se* illegality approach to tying would often lead to the prohibition of beneficial tying practices: it would have led to error in 7 out of the 11 cases considered. Likewise, a *per se* legality approach would lead to errors by allowing anticompetitive tying in 4 out of 11 cases. It follows that the analysis of the competitive impact of tying must be conducted under a rule-of-reason standard that balances efficiencies and anticompetitive effects.

⁴³ *Ibid.*

⁴⁴ *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

⁴⁵ Case IV/M.938, *Guinness/Grand Metropolitan* (98/602/EC).

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Third, the fraction of cases that are not harmful to competition exceeds the fraction of cases that are. Thus, a legal standard that recognises the possibility of judicial error would not treat anticompetitive and pro-competitive explanations as being equally plausible. The standard would have to embody some presumption that bundling or tying is often pro-competitive.

Of course, in reality Table 1 does not reflect the objective frequency of the harmful or not harmful effects of tying. First, the sample of eleven cases is small. Furthermore, the cases come from multiple jurisdictions and, more importantly, are self-selected, well-trodden cases. A table of this sort is only meaningful with respect to a single set of laws and enforcement institutions. There are a number of reasons, however, why we believe that this Table in fact overstates the true fraction of anticompetitive cases. First, in cases in which the appropriate classification was not clear, we opted for the illegal/harmful category. Second, some of these cases include what should properly be understood as vertical integration cases. Such cases are themselves controversial, but the possibility that anticompetitive harm might result from vertical mergers is much less controversial than is the case with tying. It is not valid to use rates of anticompetitive harm from vertical mergers to justify antitrust hostility to mergers that have neither vertical nor horizontal aspects to them. Finally, the Nalebuff–Majerus conclusions about which cases were indeed anticompetitive are themselves debatable.

D. Rule-of-Reason: Alternative Implementation Tests

Both Section B (theory) and Section C (evidence) conclude in favour of a rule-of-reason approach to the analysis of tying by firms with market power. Rule-of-reason assessments are typically conducted through the so-called method of the ‘competitive balance,’⁴⁶ according to which the potential pro-competitive and anticompetitive effects of tying are balanced in light of the available evidence. Yet in the case of tying, a simple balancing test raises some considerable difficulties.

First, comparing the efficiency effects and the anticompetitive effects of tying is necessarily an extremely complex exercise. On the one hand, as we discussed in Section B point 1, measuring the benefits of tying in terms of transaction costs and convenience may prove difficult. In addition, as we saw in Section B point 2, the game-theoretic models developed in recent years to show the possibility of anticompetitive tying do not provide a universally applicable checklist that competition authorities can safely use in their

⁴⁶ See P Manzoni ‘The European rule of reason—crossing the sea of doubt’ (2002) 23 *European Competition Law Review* 8, 392–9.

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rule-of-reason analyses. While it is possible to construct more or less formal ‘stories’ in which tying can prove anticompetitive, the difficulty is that the facts never match up exactly with the assumptions of the economic models, and multiple explanations are plausible. As Carlton and Waldman note,

[T]rying to turn the theoretical possibility for harm . . . into a prescriptive theory of antitrust enforcement is a difficult task. For example, the courts would have to weigh any potential efficiencies from the tie with possible losses due to foreclosure, which by itself is challenging due to the difficulty of measuring *both* the relevant efficiencies and the relevant losses.⁴⁷

Most importantly, a simple balancing test applied to individual cases would treat each candidate explanation as equally likely. The evidence in Section C implies that there should be no presumption that tying is anticompetitive, even when undertaken by firms in a dominant position. If anything, the presumption should be that tying often has beneficial effects.

1. A Structured Rule-of-Reason Approach

To avoid those problems, at least in part, we propose a structured rule-of-reason test.⁴⁸ Under this approach, any claim of anticompetitive tying would have to pass through three stages. The first two stages screen out ties that could not be anticompetitive given the facts of the case. The last stage balances anticompetitive and pro-competitive effects for those ties that survive the first two screens. In the first two stages, the burden of proof is placed on the prosecution; in the last stage, the burden of proof is shared by both sides: the defendant must prove the existence and magnitude of the alleged efficiencies, while the prosecution must establish that the anticompetitive effects of tying more than offset its efficiency effects.

The first screen is a market power test to assess whether the tying occurs in a market in which a substantial exercise of market power is possible. Economic theory shows that tying cannot possibly have anticompetitive effects unless a firm enjoys monopoly power in the tying market and faces imperfect competition—resulting from a small number of firms and barriers to entry—in the tied market. In the absence of market power, an anticompetitive tie is not possible.

The second screen is an assessment of the plausibility of the claim that the tying practice is indeed anticompetitive. At this stage, the plaintiff would have to present a relatively complete, though not necessarily formal, model of the claim that the practice is anticompetitive. This screen will eliminate those cases based on models—or stories—that do not withstand factual scrutiny. A

⁴⁷ See Carlton and Waldman, above n 10, at 215 (emphasis added).

⁴⁸ See Ahlborn, Evans and Padilla, above n 8.

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valid case would require, *inter alia*, answering the following question: why does it make sense for the tying firm to force goods upon consumers that they do not want? This screen is empirically demanding, but one must confront theory with fact.

Assuming that the case survived the first two screens, the defendant would then be allowed to argue either that the practice is motivated entirely by efficiencies. These efficiencies should only be achievable by means of the tie. If the tie is shown to have beneficial effects, the prosecution should then demonstrate that the efficiencies are insufficient to offset any anticompetitive effects.

2. The Choice of the Test

In deciding what the correct test for the competitive assessment of tying is, as when choosing one legal standard over another, one must evaluate the likelihood and the cost of erroneous decisions. A structured rule-of-reason approach to tying reduces the likelihood of costly mistakes. This is because the structured rule-of-reason test:

- a) Verifies whether it is possible that the tying practice in question could have anticompetitive effects given the status of competition in the tying and tied markets.
- b) Scrutinises the factual plausibility of the particular anticompetitive theory advanced in the particular case;
- c) Limits the complex balancing of pro-competitive and anticompetitive effects to those ties that are proven to have anticompetitive effects; and, most importantly,
- d) Recognises that tying is a ubiquitous phenomenon that often produces considerable efficiencies. In formulating a test that trades off false acquittals and false convictions, the relative frequency of competitive and anticompetitive ties is an important consideration. Given the wide consensus that the vast majority of ties either lower costs or promote convenience, a rational policy toward tying must entail high hurdles for establishing an illegal tie so as to reduce the rate of false convictions. This is precisely what our proposed test aims to achieve and what a simple balancing test fails to do.

E. Our Main Conclusion

The principal conclusion of our analysis is that, from the viewpoint of social welfare, it is not enough to accept that a rule-of-reason standard constitutes

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the right approach for the analysis of tying cases. The outcome of a rule-of-reason analysis hinges crucially on how it is conducted in practice and, most importantly, on the weight attributed to the facts of the case at hand.

A rule-of-reason approach to tying that does not discriminate between factual evidence and theoretical speculation is not a reasonable test and, what is more, would cause the same kind of harm as a *per se* illegality rule: many socially beneficial ties would be prohibited.

F. An Epilogue for Skeptics and Pragmatics

One might argue that the structured rule-of-reason test, while better than a simple balancing test, is still too difficult to implement in practice. Indeed, the second and third screens in the test involve highly demanding empirical investigation, which we are not well prepared to undertake given the current state of our econometric tools and the usually insurmountable difficulties faced by researchers when collecting data.

Although we believe that the structured rule-of-reason test provides a useful analytical tool in the analysis of tying cases,⁴⁹ its application to individual cases is resource-intensive and may yield no definitive results. The structured rule-of-reason test will prove most useful in extreme situations, i.e., where it is clear after the first two screens that the anticompetitive allegations are highly implausible and where there is clear-cut evidence supporting efficiency benefits. The test will also be useful in situations where the tie survives the two first screens but no efficiencies can be rigorously argued. In other situations, the test may prove inconclusive.

Faced with the difficulties described above regarding the structured rule-of-reason test, competition authorities and courts may decide in favour of a simpler *per se* standard. As Hylton notes,⁵⁰ an important factor in choosing between a rule-of-reason approach and a *per se* rule is the administrative and enforcement costs of implementing the legal standard. But if that is the case, given that there is no support for treating tying practices under either a *per se* illegality or modified *per se* illegality rule, the only realistic option opened to antitrust regulators is a (modified) *per se* legality standard, where tying is presumed legal unless there is clear factual evidence of anticompetitive effects and no efficiencies can be found.

A *per se* legality rule will result in more false acquittals. The cost of false acquittals must be compared to the cost of the additional administrative costs

⁴⁹ See D S Evans, A J Padilla and M A Salinger, *Applying a Structured Rule of Reason Test to Article 82 Tying cases* (manuscript).

⁵⁰ K N Hylton, *Antitrust Law, Economic Theory and Common Law Evolution* (New York, CUP, 2003)

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of having a rule-of-reason test as well as the costs of false convictions resulting from the application of that test. Given that tying is most often beneficial, it is possible that making tying *per se* legal is less costly than making it subject to a rule-of-reason test.

