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Bundling and Tying: Should Regulators Use the *Per Se* Approach or the Rule-of-Reason Approach? Lessons from the Economics Literature

Sonia Di Giannatale
Centro de Investigación y Docencia Económicas
&
Alexander Elbittar
Centro de Investigación y Docencia Económicas

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BUNDLING AND TYING: SHOULD REGULATORS USE THE *PER SE* APPROACH OR THE RULE-OF-REASON APPROACH? LESSONS FROM THE ECONOMICS LITERATURE

Sonia Di Giannatale & Alexander Elbittar***

ABSTRACT:
A firm that practices tying in the United States can be committing a per se violation of the antitrust law, and it can be also considered a per se violation of the Article 102 of the EC Treaty. However, there is evidence for the use of the rule-of-reason approach in some courts' decisions in tying cases, such as United States vs. Microsoft in 2001 and the case against Microsoft in the EC in 2004. Therefore, the question of when a tying case should be ruled under the per se approach or under the rule-of-reason approach is valid and has policy implications. This article is written to shed light into what could be the appropriate answer by presenting several lessons that we can learn from the economics literature.

I. INTRODUCTION

Bundling is a sales practice in which firms sell two or more goods or services in one package. This practice comes in two varieties: "Pure bundling" refers to cases in which the goods or services are only available through the package, while "mixed bundling" refers to situations in which the goods or services are available either through the package or each sold separately. Tying is a sales practice related to bundling, and it is characterized by the fact the primary product of the package (tying good) is not available without having to buy the package's secondary product (tied good). Pure bundling can be considered tying, as well as some cases of

* Centro de Investigación y Docencia Económicas (CIDE), Research professor. E-mail: sonia.digiannatale@cide.edu.
** Centro de Investigación y Docencia Económicas (CIDE), Research professor. E-mail: elbittar@cide.edu. Corresponding Author.

mixed bundling.[1]

Bundling and tying are widespread practices in the real world; for instance, left and right shoes are sold together, the different sections of a newspaper are sold in a single item, cable companies sell a group of channels together, and so on. There are various plausible explanations for the existence of bundling and tying, including explanations that attempt to tackle cases with distinct characteristics such as: (i) very little demand for separate products when they are perfect complements, (ii) firm's cost-efficiencies in offering their not-necessarily-complementary products through packages, (iii) demand-side incentives for bundling, and (iv) consumers and firms' transaction and assembling costs where consumers' transaction costs of assembling several components is higher than the firms' costs of doing so (personal computers, for example.) Bundling and tying are controversial practices because they can sometimes be strategies that incumbent firms use to either deter entry of competitors or to extract more surplus from consumers by using them for price-discrimination purposes.

A firm that practices tying in the United States can be committing a per se violation of the antitrust law, and it can be also considered a per se violation of the Article 102 of the EC Treaty..

In fact, a firm with market power in the tying good that practices tying in the United States can be committing a *per se* violation of the antitrust law, and it can be also considered a per se violation of the Article 102 of the EC Treaty. However, there is evidence for the use of the rule-of-reason approach in some courts' decisions in tying cases, such as *United States vs. Microsoft* in 2001 and the case against Microsoft in the EC in 2004. Therefore, the question of when a tying case should be ruled under the *per se* approach or under the rule-of-reason approach is valid and has policy implications. The rest of this article is organized to shed light into what could be the appropriate answer by presenting several lessons that we can learn from the economics literature.

In the next section, we will review the price discrimination view of tying. In Section II, we will present models that explain tying as a strategy used by firms with market power to foreclose competition. In Section III, we will focus on the literature in competitive markets that explains tying through cost efficiencies. Finally, we present some concluding remarks.

[1] David. S. Evans & Michael Salinger, *Why do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law*, 22 Yale J. Regulation 37-89 (2005).

Price discrimination occurs when there are heterogeneous consumers with some of them willing to pay more than the monopoly price while others unwilling to pay the monopoly price but willing to pay more than the marginal cost.

II. THE PRICE DISCRIMINATION VIEW

Stigler[2] pioneered the price discrimination view with the objective of providing an alternative explanation for tying. He proposed this as an alternative to the courts' commonly adopted position that tying was a strategy of firms with market power in the tying product to leverage their dominance into the tied product market. Stigler's explanation was based on the idea that bundling should only matter if the bundle's price is different from the sum of the components' prices, and that there is price discrimination if the price difference is not due to cost efficiencies. Moreover, this article is focused on those cases in which bundling occurs for motives that are neither cost efficiencies nor foreclosure strategies.

Price discrimination occurs when there are heterogeneous consumers with some of them willing to pay more than the monopoly price while others unwilling to pay the monopoly price but willing to pay more than the marginal cost. Bundling might offer the possibility of extracting surplus from the first group and getting the second group to buy both products. This strategy is successful when the surplus gains from people who buy both goods are greater than the costs to consumers that want just one product but are left with just the possibility of buying the bundle.

The fundamental assumption of this theory is that marginal cost is zero or very low. The justification of why bundling of information goods is profitable (cable television, software, movie distribution) is based on this assumption. Bakos & Brynjolfsson[3] (1999), for instance, find that when marginal cost is zero or very low, bundling allows for an increase in demand without a change in cost.

How profitable bundling is as a strategy for extracting consumers' surplus through price discrimination, depends on the valuations of those heterogeneous consumers. Adams & Yellen[4] and McAfee et al.[5] analyze conditions under which bundling is a profitable strategy for a monopolist. The first paper demonstrates that a monopolist who sells several products to consumers who value those goods independently of whether they are consuming them or not, bundling is a profitable strategy that allows the monopolist to extract surplus from consumers

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2 G. Stigler, *A Note on Block Booking*, The Organizaton of Industries, 165 -170 (G. Sitgler ed., 1968).

3 Y. Bakos & F. Brynjolfsson, *Bundling Information Goods: Pricing, Profits and Efficiency*, 45 Mgmt. Sci. 1613-1630 (1999).

4 W. Adams & J. Yellen, *Commodity Bundling and the Burden of Monopoly*, 90 Quarterly J. Econ. 475-498 (1976).

5 P. McAfee, J. McMillan, & M. Whinston, *Multiproduct Monopoly, Commodity Bundling, and Correlation of Values*, 104 Quarterly J. Econ 371-383 (1989).

in a way that cannot be achieved through independent pricing. In the second paper, this analysis is generalized to obtain the conditions under which bundling is a profitable strategy for a multi-product monopolist. McAfee et al. determine that bundling is profitable whenever (i) the valuations of the consumers are independently distributed, and (ii) the monopolist can monitor the purchases of consumers. Bundling then dominates independent selling for almost all joint distributions of consumers' valuations.

Aghion & Bolton show that an incumbent firm, facing the possibility of a competitor entering his market, might benefit from signing long-term contracts with other firms that will partially preclude the entry of more efficient firms.

Moreover, there has been empirical evidence that tying can also be regarded as a device for metering, as determined by Hartmann & Gil,[6] because it allows the monopolist to charge a higher price for the tied product to consumers who value it more. Examples in which tying can be a device for metering include printers and toner cartridges, razors and blades, cameras and films, and popcorn and movie tickets.[7]

Given that bundling and tying are not usually regarded as innocuous practices, in the next section we will review the literature that explores the foreclosure explanation for bundling and tying.

III. THE FORECLOSURE VIEW

Previous to the Chicago School argument that once a monopolist is earning monopoly profits in one market, he cannot extend his power into another market - a result known as the "single-monopoly-profit theorem" - the U.S. courts ruled all cases of tying as attempts by a monopolist to leverage its market power into another market. The Chicago School view intended to provide a positive explanation for tying; however, more recent literature has put foreclosure as one of the dominant explanations of tying in situations in which this theorem does not hold. Specifically, the foreclosure explanation for tying emphasizes the monopolist's need to protect the market power he has in the market in which he operates as a monopoly, ruling out the need to leverage his monopoly power into another market.

Aghion & Bolton show that an incumbent firm, facing the possibility of a competitor entering his market, might benefit from signing long-term contracts with other firms that will partially preclude the entry of more efficient firms. In this analysis, it is emphasized that it is

[6] W. Hartmann & R. Gil, *Empirical Analysis of Metering Price Discrimination: Evidence from Concession Sales at Movie Theatres*, 28 Marketing Sci. 1046-1062 (2009).

[7] P. Belleflamme & M. Peitz, *Industrial Organization: Markets And Strategies* (2010).

not the length of contracts that constitutes a barrier to entry, but how a contract secures several parties into a relationship. The structure of these contracts can be varied and complex, including tying contracts among several firms that want to protect their respective market power; this might be a reason why antitrust authorities could have difficulties in recognizing situations in which agreement contracts may or may not constitute barriers to entry.

Whinston[8] intends to provide a defense of the foreclosure argument for tying. Assuming the existence of production scale economies in the tied good and strategy interaction, Whinston proves that tying is a good mechanism for changing the structure of the tied good's market, leading to its monopolization through foreclosure and therefore to detrimental welfare effects. However, tying is profitable for monopolists only when there is the possibility of precommitting to tie. In his concluding remarks Whinston recognizes the difficulty for antitrust authorities of recognizing the instances in which tying actually constitutes an effort aimed at foreclosing competition.

Carlton & Waldman,[9] building on Whinston,[10] analyze how tying complementary products can result in the preservation and creation of monopolies. They obtain that if, in the present period, a product's monopolist uses tying with a complementary good to deter entry in his market then he can preserve his monopoly power in future periods. Also, they find that tying can be used to extend monopoly power into a newly emerging market in industries of products with a short lifespan that are also characterized by rapid technological innovation and the presence of network externalities. However, they issue a warning that extending these theoretical results, which suggest harmful effects of tying, into policy suggestions is not straightforward.

From this literature we understand that it is possible that tying might be the result of monopolists' attempts to foreclose competition under certain circumstances, and in certain industries. However, identifying tying contracts' characteristics - static or dynamic - that are truly intended to deter entry is not an easy endeavor, and hence antitrust authorities should be cautious when taking into account these results.

IV. THE COST-EFFICIENCY VIEW

In the previous sections, we analyzed bundling and tying in environments where firms have

[8] M. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AMER. ECON. REV. 837-859 (1990). Also included in this number.

[9] D. Carlton & M. Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, RAND J. Econ. 194-220 (2002).

[10] Evans & Salinger, *supra* note 1.

market power, and we also learned that not all cases of bundling and tying necessarily result in more market power for monopolists or in lower consumer surplus. In this section, we present a model, proposed by Evans & Salinger,[11] of bundling that produces cost-efficiencies in a competitive setting.

The authors conclude that using the per se approach in cases of tying is wrong, and that proving the existence of cost-efficiencies as required by the rule-of-reason approach is difficult in both competitive and non-competitive settings.

First, assuming that a primary good, that is homogeneous, is produced by a duopoly, and a secondary good is produced under perfect competition, they show that bundling constitutes a product differentiation strategy resulting in lower price competition and welfare. That is, under these circumstances, bundling is harmful. Next, in the case of two competitive firms that sell compatible components of a system, and if consumers have a low reservation price for the system, bundling intensifies competition and separate selling is the more profitable strategy. If the consumers have a high reservation price for the system, the equilibrium outcome is separate selling. So, bundling might not have harmful effects if the components of a system are produced by competitive firms and the consumers have a low reservation price.

The assumed cost-efficiencies of Evans & Salinger's main model come from fixed-cost savings from bundling, which has two implications: (i) offering the two products separately may not be efficient, even when some consumers might prefer separate selling, and (ii) the demand for the tied product may increase from tying and, hence, the firm would have achieved a greater scale of production than it could have achieved from separate selling. Three facts established in the paper have important implications for tying doctrine: tying occurs in competitive markets, product-specific scale economies are needed to understand tying. and product-specific scale economies may be hard to detect when they are present.

In this model, the assumptions of (i) heterogeneous consumer preferences, (ii) prices equal to average total cost, and (iii) the existence of fixed costs of the offering products create the possibility for marginal costs savings from bundling. The authors find that the existence of marginal cost savings is neither a necessary nor a sufficient condition, and that the existence of fixed costs is a necessary but not a sufficient condition for the emergence of tying in competitive markets. So, firms use tying when it reduces fixed costs associated with offering one or the two products separately.

On the other hand, the reasons for the emergence of bundling in competitive markets are both the existence of moderate fixed costs when there is a high demand for both products and

[11] Evans & Salinger, *supra* note 1.

Models of price discrimination ties that do not assume a price cut and output increase in the tying product create false positives to the extent that they do not reflect reality.

a low demand for at least one of them, as well as the existence of high fixed costs. Finally, firms may sell one, but not all, the products separately when the demand for the bundle and the demand for one of the separate products is high, but demand for the other is low.

The authors conclude that using the per se approach in cases of tying is wrong, and that proving the existence of cost-efficiencies as required by the rule-of-reason approach is difficult in both competitive and non-competitive settings. Therefore, the antitrust authorities should be cautious when ruling on tying cases because the possibility of a high rate of false convictions is not trivial.

V. CONCLUDING REMARKS

Both in Europe (Papandropoulos[12]) and in the United States (Evans & Salinger[13]) antitrust legislations use the per se approach to condemn bundling and tying when the following conditions hold: (i) the bundled or tied products are different, (ii) there is market power either in the tying or the tied good market, (iii) there are potential effects of foreclosure from bundling or tying, and (iv) there are no efficiency-effects from these practices. However, these conditions contain elements requiring the rule-of-reason approach.

When faced with ruling about bundling and tying cases, the antitrust authorities should empirically test whether these conditions hold. This task is not without tremendous difficulties. First, demand analysis is required in order to test the first condition, as well as to test whether there is significant demand for the bundle and a low demand for both products separately. Second, identifying foreclosure effects of bundling and tying is not trivial, as concluded in the theoretical foreclosure papers described previously, because of the complexity of the contracts that can arise among different firms. Finally, documenting efficiencies from bundling and tying in both competitive and non-competitive markets is sometimes hard to do in practice.

All these difficulties lead Evans & Salinger[14] to recommend always using the rule-of-reason in judging bundling and tying cases. Moreover, these conditions do not explicitly consider the welfare gains that can arise in cases where price discrimination is the reason behind bundling and tying. So, when the above conditions are satisfied, probably the *per se* approach should be modified by considering more aspects from the demand-side and taking more caution when empirically ruling out possible efficiencies that might not be so easily documented.

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[12] P. Papandropoulos, *Article 82: Tying and Bundling. A half step forward?* COMPETITION L. INSIGHT (June 2006).

[13] Evans & Salinger, *supra* note 1.

[14] *Id*.