BUNDLING BEHAVIOR IN TELECOMS: WHAT FIRMS DO AND HOW EUROPEAN COMPETITION AUTHORITIES HAVE INCLUDED BUNDLING IN THEIR REASONING

By Agustín Díaz-Pinés & João Vareda[1]

I. INTRODUCTION

Over the last decade there has been a trend of growing demand of bundled offers in the telecoms industry, namely of the so called "triple-play" bundles which include fixed telephony, fixed Internet and pay-television services. However, bundling in the telecoms industry in itself is not a new phenomenon. Well-known traditional forms of bundling include fixed telephony and Internet access ("double-play"). More recently, we have also verified the emergence of so-called "quadruple-play" bundles. In addition to the three products that are contained within a triple-play bundle, quadruple-play bundles also include mobile services (telephony, SMS and Internet access).

For instance, in the selected countries included below, which coincide with those present in recent merger decisions by the European Commission and some European National Competition Authorities ("NCAs"), triple-play bundle penetration has stabilized or declined in the 2013-2015 period, which can be explained by the rapid increase of quadruple-play (triple-play plus mobile services) as Tables 1 and 2 show. Of note is the case of Spain where, in a context of a high penetration of bundled services, the most common bundle type is a triple-play which does not include pay-television but does include mobile services. This can be explained by the traditionally low penetration of pay-television services in Spain.

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[1] Agustín Díaz-Pinés, European Commission, DG Competition, Centre de Recherche en Gestion, Ecole-Polytechnique/Université Paris-Saclay, France. João Vareda, European Commission, DG Competition, CEFAGE-UE, Universidade de Évora, Évora, Portugal. The content of this article does not necessarily reflect the official position of the European Commission. Responsibility for the information and views expressed lies entirely with the authors.

Table 1: 3-play penetration in selected countries (percent of fixed BB subscribers in a 3-play bundle)

3-play indicator (%)	2013	2014	2015
Belgium	39%	32%	32%
France	67%	69%	
Portugal		49%	44%
Spain	8%	5%	4%
Spain (3-play with mobile)	41%	45%	46%
United Kingdom	27%	30%	

Sources: IBPT (Belgium), authors' data collection from public sources (France, United Kingdom), Anacom (Portugal), CNMC (Spain).

Table 2: 4-play penetration in selected countries[2]

4-play indicator (%)	2013	2014	2015
Belgium	1%/4%	4%/15%	5%/18%
Portugal		8%/38%	11%/47%
Spain	1%/12%	4%/16%	7%/19%

Sources: IBPT (Belgium), Anacom (Portugal), CNMC (Spain).

These bundled products are often perceived as being cheaper and also more convenient for consumers. Despite the benefits of bundles for consumers, they also have potential downsides. Problematic aspects of bundles can include switching problems or pricing transparency. Bundles can also be used in an anti-competitive manner to foreclose competitors.

In this article we start by discussing the reasons why firms in the telecoms sector bundle and the impact on welfare of these strategies. We then describe the most recent merger and antitrust decisions in Europe where telecoms bundles were assessed.

II. REASONS FOR BUNDLING

Bundling is used by firms for several reasons. Some of them are legitimate and even promote welfare, while others may raise antitrust concerns. In fact, a given bundling strategy may be pursued to attain quality improvements or cost reductions, or to limit or foreclose competition in a given market.[3]

[2] This table shows two quadruple-play indicators (percent of quadruple-play subscribers as a percentage of mobile subscribers and percent of 4-play subscribers as a percentage of fixed broadband subscribers). The latter can be compared with triple-play indicators, which uses the same denominator (fixed broadband subscribers).

[3] See, e.g. O'Donahue R. and J. Padilla, 2006, "The Law and Economics of Article 82 EC," Hart Publishing. and Nalebuff, B., 2003a, "Bundling, Tying and Portfolio Effects, Part 1 - Conceptual Issues," DTI Economics Paper no. 1

First, firms may decide to sell a bundle with the objective of achieving quality improvements. For example, buying several telecoms services in a bundle instead of separately, possibly from different firms, or at least from different departments of the same firm, involves the convenience of receiving only one invoice, having to call only one consumer call center in case of repairs, etc. There may also be economies of bundling, if the cost of selling the products jointly in a bundle is smaller than the sum of the costs of selling them separately. Economies of bundling may emerge for several reasons in the telecoms sector. For instance, (i) marketing a bundle of fixed telephony, Internet and television services may be cheaper than marketing these services separately, (ii) billing a bundle of these services may be cheaper than billing these services separately, and (iii) having a customer service line for a bundle of these services may be cheaper than having separate customer lines for each service.

A second reason for bundling is related to price discrimination.[4] If customers have different valuations for a good, a firm would prefer to charge different customers different prices, according to their valuation. Price discrimination might be hard to implement since it requires that the firm (i) knows customers' individual valuations, and (ii) can prevent arbitrage. However, if the firm sells several goods whose customers' valuations are not positively correlated, bundling can have an effect similar to price discrimination. In fact, by reducing customer heterogeneity, bundling helps implementing price discrimination.

Third, bundling can be used to eliminate double-marginalization. Consider two firms selling two complementary products. In this case, a decrease in the price of one of them will increase not only the demand of that product but also the demand of the other firm's product. Since each firm maximizes its individual profits, neither of them takes into account the impact of its pricing decision on the other's profit. If the firms merged they would maximize joint profits, and therefore take into account the interaction between their pricing decisions and set lower prices, which would generate a higher joint profit. If the products were complementary but not always purchased or used together, the merged entity would prefer to discount the price only to customers who were purchasing both products. Such a strategy could be pursued through bundling.

Fourth, some authors argue that bundling can be used to extend market power across markets. In particular, a firm with market power in one market can use bundling to extend market power to another market where it has no market power. One of these cases is when bundling is used to create a barrier to entry. A firm with market power with respect to several products can offer them as a bundle to make entry more difficult for rivals offering only one product. Consider a firm that sells a bundle composed of products A and B but does not sell these products individually. If an entrant can only sell product A, then it is limited to selling its product only to consumers who value product A, but who do not value product B. Consumers

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and Nalebuff, B., 2003b, "Bundling, Tying and Portfolio Effects, Part 2 – Case Studies," DTI Economics Paper no. 1 for comprehensive surveys on bundling.

[4] For the analysis of bundling by a multi-product monopolist with the purpose price-discrimination see, e.g. Bakos, Y. and E. Brynjolfsson, 2000. "Bundling Information Goods: Pricing, Profits, and Efficiency," Management Science, 45(12), 1613-1630., McAfee, P., J. McMillan, and M. Whinston, 1989, "Multiproduct Monopoly, Commodity Bundling, and Correlation of Values," Quarterly Journal of Economics, 84, 271–284 and Schmalensee, R., 1984, "Gaussian Demand and Commodity Bundling," Journal of Business, 57, 211–230.

who value A and B prefer to buy the bundle. Consumers who do not value A, but are unwilling to give up B must also buy the bundle. Therefore, bundling allows the multi-product firm to defend its products against single-product entrants, even if they are very competitive, without having to lower the price of either of its products.

Even if entry by a single-product firm occurs, bundling can also mitigate the impact of competition on the multi-product firm.[5] When the single-product firm enters the market, some of its customers are captured from the multi-product firm, but others are customers who were previously out of the market. The single-product firm appeals to those customers who value its product but not the other product. This group of customers is attracted to the single product firm and yet does not cause the multi-product firm a large loss in demand. The fact that the single-product firm only competes for a limited group of customers reduces the scope of competition. Bundling may also be used as a way of two competing firms better differentiating themselves, by having one firm selling the bundle and the other selling the individual product.

Bundling can also be used for various other strategic reasons related to search costs and switching costs. Introducing a bundle means introducing an additional product in the market, and increasing the price inquiries and comparisons a customer needs to make. However, for customers who already decided to purchase both goods, having to inquire about the price of the bundle, instead of the prices of the various separate products that constitute the bundle, means reducing search costs. The impact of bundles in search costs is thus potentially ambiguous, and has to be evaluated on a case-by-case basis. Similarly, the impact of bundling on switching costs is also ambiguous. On the one hand, a customer of a bundle will, probably, not be very sensitive to reductions in the prices of the individual products, since switching the provider for one of the products could imply changing the contract for the provision of the remaining products. On the other hand, a customer of a bundle could be more sensitive to reductions in the prices of other bundles than a customer of individual products bought from separate suppliers.

III. WELFARE IMPACT OF BUNDLING

Bundling may be used for various reasons with both positive and negative effects on welfare. Therefore, an evaluation of the impact on welfare of a bundling strategy requires the detailed knowledge of the facts of the market, and balancing these opposing effects. The growing awareness of these elements seems to be shifting the evaluation of bundling from a *per se* illegality approach towards a “rule of reason” approach.

When bundling achieves quality improvements or cost reductions, the impact on welfare can be positive. In fact, quality improvements and cost reductions may increase firms’ profits and consumer welfare too.

When bundling is used for price discrimination, the impact on welfare is ambiguous. Price discrimination increases firms’ profits at the expense of consumer surplus. The overall impact on welfare depends on which of these two effects is stronger.

[5] See Nalebuff, B., 2000, "Competing Against Bundles," Yale School of Management Working Papers 157, Yale School of Management.

When a firm adopts a bundling strategy to create entry barriers or mitigate competition, this will generate a negative effect on welfare. The reason is that fewer or weaker rivals in the market will ultimately lead to higher prices and, possibly, lower product variety.

An assessment of the overall impact of bundling on welfare is thus complex. First, depending on the context, a given bundling strategy may be pursued to attain efficiencies, or to reduce competition. Hence, it may have a positive or a negative impact on welfare. Second, such strategy may simultaneously generate efficiencies and reduce competition and therefore, it may simultaneously have a positive and negative impact on welfare. This implies that the evaluation of the impact on welfare of a given bundling strategy should be done on a case by-case basis.

IV. DECISIONAL PRACTICE IN EUROPE (MERGERS)

The European Commission's decisional practice in merger cases for the telecoms sector has addressed bundling in a number of instances.[6] Given the technical difficulty for establishing a relevant product market for multiple-play services (whether fixed-only or fixed/mobile), the Commission has in all cases left the exact product market definition open, while still analyzing the role played by bundled services in its competitive analysis. The aim of this section is to provide an overview of the criteria that the Commission has taken into account in the assessment of multiple-play services. We cover the following cases: *Vodafone/Kabel Deutschland* (M.6990, Germany, 2014), *Liberty Global/Ziggo* (M.7000, Netherlands, 2014), *Vodafone/Ono* (M.7231, Spain, 2014), *Altice/PT Portugal* (M.7499, Portugal, 2014), *Orange/Jazztel* (M.7421, Spain, 2015) and *Liberty Global/Base* (M.7637, Belgium, 2016). The decision *Vodafone/Liberty Global* (M.7978, Netherlands, 2016) also includes a discussion on bundles but its public version has not been yet made publicly available.[7]

Needless to say, merger decisions address bundles to the extent that they are relevant to the assessment of each transaction, therefore the decisions are not directly aimed at investigating the competitive impact of bundles in general. In addition, conducting an exhaustive market definition exercise, i.e. empirically assessing whether bundles constitute a relevant product market, by means of a SSNIP test, for example, is a resource-demanding exercise. It is therefore understandable that the Commission has refrained from undertaking such analysis in recent cases. As mentioned, the Commission has left the product market definition in all cases described in this article, while undertaking an assessment for the possible multiple-play market(s). Interestingly, some cases such as *Vodafone/Ono* include a "double" assessment, which delivers the same result: (i) considering the horizontal overlap in the possible "multiple-play" market(s) and (ii) conglomerate effects between fixed and mobile markets, should a multiple-play market not exist. This double assessment adds to the review of the different market of standalone products, such as fixed Internet access.

In *Altice/PT Portugal*, the Commission found that most customers already purchased fixed triple-play bundles in Portugal, but also noted that the market investigation provided mixed results as to the existence of a multiple-play market. In the competitive assessment,

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[6] Given the fast moving nature of these markets and the existence of a sufficiently high number of merger decisions, this article focuses on those from 2013 onwards.
[7] http://europa.eu/rapid/press-release_IP-16-2711_en.htm.

the Commission found competition concerns based on the merged entity's market share in the possible fixed multiple-play markets (up to 60-70 percent in terms of value) and the closeness of competition (for fixed services only, as only PT offered multiple-play services with a mobile component).

In *Vodafone/Ono*, the market investigation indicated that triple- and quadruple-play services were becoming the norm in Spain. In the competitive assessment, the Commission conducted a conglomerate effects analysis between fixed and mobile services (or horizontal effects analysis if there were to be a multiple-play market). In the latter case, the Commission found an overlap, as both Vodafone and Ono offered multiple-play bundles, but noted that their bundles were relatively different (Vodafone was weaker in fixed while Ono was stronger). The Commission also found that there were a number of alternative competitors on the market and that, although eliminating a current competitor, the merged entity would become a stronger competitor. Furthermore, the Commission ruled out conglomerate effects based on existing regulation for both the wholesale mobile and fixed markets.

In *Orange/Jazztel*, the Commission also left open the question of whether there is a multiple-play market (or several multiple-play markets), as that transaction raised competition concerns in the market for fixed Internet access irrespectively of how the packages included in such market. This is not surprising given the fact that Spain, as highlighted in *Vodafone/Ono,* likely has the highest penetration of fixed/mobile bundles in the European Union (in 2015, some 65 percent of fixed broadband subscribers where on a fixed/mobile bundle). Since 2012, and strongly driven by the incumbent operator Telefónica, the Spanish market is characterized by a strong presence of fixed mobile bundles. This market definition exercise was made based on the following factors: a) the market investigation revealed that bundles play an important role in the Spanish market but that their importance mainly relied on price discounts and, as a less important feature, convenience of having different services in the same package, and b) from the company's perspective, a very important driver was a lower churn (less customer switching), as companies perceived that it is more difficult for customers to switch if they subscribe to more than one service. The Commission therefore found competition concerns in the possible markets for (i) double-play, (ii) triple-play and (iii) the market comprising triple- and quadruple-play services.[8]

In *Vodafone/Kabel Deutschland*, the Commission noted that customers in Germany purchase triple-play offers including either only fixed (telephony, internet and television) or fixed and mobile services (with fixed telephony and Internet). In relation to the possible conglomerate effects between fixed and mobile services for offering multiple-play bundles (or the horizontal effects if such a market were to be defined), the Commission ruled them out largely based on their lack of merger specificity (foreclosing mobile operators from accessing the fixed network) and on the fact that fixed competitors would have competing mobile networks from which to procure a mobile component (foreclosing fixed operators from accessing mobile networks).

In *Liberty Global/Base*, the Commission did not discuss fixed bundles as that transaction only concerned fixed/mobile bundles. It noted, however, that fixed bundles (triple-play) were widespread in Belgium. An interesting aspect of this case is the discussion around undiscounted joint purchasing, which the Commission does not consider, based on its

[8] The difference between triple- and quadruple-play was TV services. One of the merging parties (Jazztel) did not offer TV services and hence the triple- and quadruple-play markets have been assessed together.

Guidelines, as bundled services.[9] Liberty Global (Telenet) did not offer fixed-mobile bundles under the meaning of the Guidelines, except for very limited exceptions. The Commission concluded that these offerings would likely not be included in a potential multiple-play market as most customers would switch back to the standalone services in the event of an increase in price. The Commission also noted that the large majority of Belgian customers purchase fixed and mobile services separately. According to the Commission's decision, the effects on the potential market for fixed and mobile services were analyzed under conglomerate effects. In that assessment, the Commission found it unlikely that there would be foreclosure of competitors and highlighted that becoming an integrated operator could be pro-competitive if there is a cost advantage in being a mobile network operator (Liberty Global already operated a mobile virtual operator in Belgium).[10] The Commission also mentioned that Base's customers could have access to unified billing. The Commission also echoed the operators' views that customers churn less.

In *Liberty/Ziggo*, the Commission noted that triple-play services had a high penetration rate in the Netherlands (around 50 percent), with television services playing an important role in that market, because cable operators only offered non-television services together with television services. Again, the Commission left the market definition open. The Commission further assessed competition concerns jointly for the markets of pay-television, fixed Internet access, fixed telephony and multiple-play services.

Some of the economic findings summarized in Sections 2 and 3 of this article emerge from the Commission's analysis. First, the lower churn which characterizes bundles appears to be one of the main reasons why telecoms operators bundle services. A second important aspect is the extent to which firms engage in price discounts associated with bundles. Price discounts seem to be the main reason for a high multiple-play take up in Spain. Overall, it seems that convenience, unified billing and potential additional services play a fairly limited role in operators' bundling behavior. Third, take-up of multiple-play services in different countries seems to exert an influence on the way the Commission looks at competition effects of bundles. Fourth, the Commission has recognized in some cases that the combination of fixed and mobile assets resulting from a merger may entail pro-competitive effects (see *Orange/Jazztel*). Finally, the very different take-up of fixed mobile bundles in different European countries seems to be due to strategic market-specific reasons rather than to an overall trend. Nevertheless, fixed mobile bundles seem to be increasing in all countries analyzed by the Commission.

In addition, European national competition authorities have also recently considered bundles, namely in: *Zon/Sonaecom* (Portugal, 2013), *Numericable/SFR* (France, 2014) and *MasMovil/Yoigo* (Spain, 2016).[11]

Zon/Sonaecom remains to date the only merger decision where a multiple-play market has been defined through a SSNIP test applied to triple-play products. Based on the

[9] These services, widespread in Belgium for fixed/mobile combinations, involve unified billing for fixed and mobile services, but no price discount or technical improvements with respect to the standalone provision of the same services.

[10] The fact that the merged entity could offer fixed mobile bundles at better costs was not formally assessed as an efficiency claim by the Commission, but was nevertheless mentioned in the competitive assessment.

[11] The *MasMovil/Yoigo* decision has not yet been published by the Spanish NCA and will therefore not be discussed.

econometric study by Pereira et al. (2013)[12] which shows that for the Portuguese market, given the absence of close substitutes, it would be profitable for a hypothetical monopolist controlling all triple-play offers to increase the price of these product by 5 or 10 percent, the Portuguese NCA closed the market definition for triple-play offers. As regards the remaining bundled offers, namely the three different double-play offers (telephony and internet, telephony and television services and internet and television services) and the quadruple-play offer (which adds mobile voice to the other three fixed services), the Portuguese NCA left open the possibility of the existence of such markets. In its assessment, the Portuguese NCA concluded there were competition concerns in the market for triple-play offers given the large horizontal overlaps between the parties and their closeness of substitution.

By way of contrast, *Numericable/SFR* focused on the analysis of conglomerate effects between fixed and mobile services and did not address the issue of market definition of triple- and quadruple-play services. The French NCA noted that most gross ads (customers acquired by operators) of fixed Internet subscribers come from quadruple-play offers and that the acquisition of SFR unlocked a mobile customer base to which the merged entity could sell quadruple-play. In addition, Numericable had a large footprint of fiber infrastructure which other operators did not have at the time, and could not deploy at short notice. For these reasons, the French NCA found that the merged entity had the incentive and the ability to foreclose fixed competitors, in particular through quadruple-play offers with very high speed Internet access. In addition, the French NCA noted that these effects would be compounded with lower churn levels due to bundling discounts and the complexity for customers to terminate contracts for many different services simultaneously. Finally, the French NCA noted that fiber deployments were at risk because the transaction significantly reduced the addressable customer base for fiber Internet access.

These two decisions by NCAs depart from the Commission's practice in different ways. First, the Portuguese decision, unique in empirically defining a multiple-play market, remains a first of its kind. It is, however, doubtful that these type of analyses could be undertaken systematically, given their complexity and data needs. The *Numericable/SFR* decision is also unique for a different reason: it uses conglomerate effects to find competitive harm in relation to quadruple-play services in particular as regards fiber deployments. In a way, this departs from some of the Commission's reasoning that shows that having a new integrated operator may be positive. Moreover, the Commission relied on existing *ex-ante* regulation for the fixed network to rule out competitive harm in *Vodafone/Ono* while regulation did not play a role in the French decision. The French decision, however, takes place in the context of fiber deployments by all fixed operators, which the French NCA sees at risk. This risk was in turn addressed by a commitment offered by Numericable to grant access to its fiber network.

V. DECISIONAL PRACTICE IN EUROPE (ANTITRUST)

As regards anti-competitive practices, the position of competition authorities towards bundling has changed over the years. In the past, bundling was typically treated as *per se* illegal. Hence, in the absence of evidently recognizable and bundle specific cost-savings,

[12] See Pereira, P., Ribeiro, T. and Vareda, J., 2013, "Delineating Markets for Bundles with Consumer Level Data: The Case of Triple-play," International Journal of Industrial Organization, 31, 760-773.

competition authorities prohibited bundling. More recently, competition authorities seem to be applying a "rule of reason" approach where bundling strategies are analyzed on the basis of the evidence about potential pro-competitive and anti-competitive effects of the case.

A discussion paper of the Commission in the context of Article 102 of the Treaty on the Functioning of the European Union proposes an approach that consists of comparing the implied price of each component of a bundle with its cost.[13] This amounts to conducting an implicit predatory price test, and corresponds to checking if the price charged for each component is so low as to prevent equally efficient competitors from offering a competitive alternative.[14]

In Europe, up to now, there are no cases of telecoms bundling being deemed illegal by the Commission or NCAs. The only exception is a decision from the Luxembourg NCA in 2008.[15] Following a complaint by two competitors against EPT for abuse of its dominant position on the marketing of a product called "Integral," bundling the services of fixed telephony, mobile telephony and high-speed Internet access, the Luxembourg NCA identified a potential abuse in the form of illegal bundling. The Luxembourg NCA adopted a remedy prohibiting EPT from bundling the product IPTV (television by telephone) with its product "Integral" or in any other bundled offer. This measure was valid until the competitors of EPT were technically and commercially in the position, based on a transparent and non-discriminatory offer to the network of EPT, to offer the same product on the fixed-line telephone network.

In 2014 Ofcom, the United Kingdom's dual national regulatory authority ("NRA") and competition authority for telecoms, published its TalkTalk non-infringement Competition Act enforcement decision[16] analyzing an allegation of margin squeeze against the fixed line incumbent as regards its bundle offer of premium sports content offered with very high speed Internet. In its assessment of margin squeeze, Ofcom assessed the profit margin across the bundle of products and found it to be sufficient to cover downstream costs, implying that an equally efficient competitor should have been able to compete with the fixed line incumbent across the portfolio of products. Yet the profit margin could not definitively be said to be sufficient, and effects were unclear in this dynamic market. This gap, therefore, required *ex-ante* regulation by Ofcom as NRA to monitor and enforce a sufficient access margin, rather than *ex-post* competition law enforcement.

VI. CONCLUSION

Despite the increasing trend for bundle offers in the telecoms sector in Europe, in its recent merger decisions, the Commission has so far refrained from taking a view as to whether multiple-play services (both fixed and fixed/mobile) constitute a separate product market. As a result, it has undertaken an analysis for the possible multiple-play market(s) and for the standalone markets and for hypothetical market including standalone and bundled services.

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[13] European Commission (2005).

[14] This approach has been followed, for instance, by the Office of Fair Trading in a case regarding the wholesale supply of TV channels carrying sport events (*BSkyB* case).

[15] See http://www.concurrence.public.lu/fr/decisions/abus-de-position-dominante/2008/decision-2008-mc-01/index.html.

[16] Ofcom, Competition Act Final Decision, TalkTalk, (CW/01103/03/13) (October 21, 2014).

For example, it has assessed fixed/mobile bundles both from the perspectives of conglomerate effects and the horizontal overlap in a possible multiple-play market(s). In the case of Article 102 assessments, there is no decision from the Commission prohibiting telecoms bundling.

There is one rare example of an NCA that adopted a decision where a market for triple-play offers was defined based on the empirical implementation of a SSNIP test, as well as a decision, although somehow old, where the telecoms incumbent was prohibited of adopting a bundling strategy as regards its television services.