The application of EU antitrust law to (dominant) online platforms

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4 Platform Expansions and Anti-Competitive Market Power Leveraging

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4.1 Introduction

The ever growing and evolving digital economy is currently subject to substantial legal debates and developments in the context of EU competition law.[1] Despite clear indications that competition law will apply to online platforms as in the case of any other undertaking, there is no coherent strategy on either the EU level or national level in this regard.[2] This absence of a unified strategy has not slowed down the application of EU competition law to online platforms, however. The growing success and prominence of multi-sided platforms such as the Amazon Marketplace and the Google search engine and Android OS has already triggered several investigations into their business strategies.[3] These investigations and decisions have not been welcomed by all, as much critique was addressed towards the

1 See e.g. Commission Staff Working Document on Online Platforms SWD(2016) 172.

2 See e.g. the rapport from the DG for internal policy on online platforms online at:< http://www.europarl.europa.eu/RegData/etudes/STUD/2015/542235/IPOL_STU(2015)542235_EN.pdf> accessed 18 June 2020; Commission, 'Staff Working Document on Online Platforms Accompanying the document Communication of Online Platforms and the Digital Single Market', COM(2016) 288; See also D Mandrescu, EU Competition Law and the Digital Economy: Protecting Free and Fair Competition in an Age of Technological (R)evolution: The XXIX FIDE Congress in The Hague, 2020 Congress Publications, Vol. 3 (Boom Uitgevers, 2020, The Hague). The FIDE reports covering 26 European jurisdictions show an extremely differentiated approach across various competition authorities and national courts.

3 In the case of the Commission two infringement decisions have already been taken in the case of Google concerning Google Shopping and Android, see Case AT. 39740 Google Search (Shopping) Commission decision of 27 Jun 2017 and Case AT.40099 Google Android Commission decision of 17 July 2018. Furthermore, the business practices of Amazon are investigated by both the Commission and the German competition authorities, see Thomas Hoppner and Philip Westerhoff, The EU's investigation into Amazon Marketplace, Kluwer Competition Law Blog http://competitionlawblog.kluwercompetitionlaw.com/2018/11/30/the-eus-competition-investigation-into-amazon-marketplace/ (accessed 3 Dec 2018).

European Commission and national authorities for incorrectly applying competition law. In the context of tying and bundling such critique can be observed with regard to the recent cases against Google.[4]

The Google shopping decision was criticized for dealing with a theory of harm that resembles a tying case, yet it was qualified as a leveraging abuse that constitutes a generic term for many anti-competitive practices.[5] In the recent case of Google Android,[6] the matter of tying was no longer disputed. However, opponents of the decision stated that this type of tying is different as it is an inherent element of Google's business model and not a strategy adopted to eliminate competitors.[7] These cases and the debates they triggered prove that market power leveraging through tying and bundling practices in the context of multi sided (online) platforms is not yet understood. This conclusion is troublesome as online platforms are driven by the same profit-centered motives as any other type of undertaking and thus as likely to engage in anti-competitive tying and bundling practices. In fact, online platforms are more likely to adopt market power leveraging strategies as part of their expansion strategies, which are instrumental to their continuity in light of cross sectorial competitive threats.[8] It is therefore imperative that anti-competitive leveraging of market power by means of tying and bundling is distinguished from permitted, and in many cases, pro-competitive expansion strategies of online platforms.

Broadly speaking, tying occurs where an undertaking makes the provision of one of its products or services (the tying product) conditional upon customers obtaining another product or service (the tied product) from the

4 In *Google Search (Shopping)* (Case AT.39740) Commission decision of 27 Jun. 2017, Google abused it dominant position in General search by giving a preferential treatment to its own shopping search service and demoting the placement of competing shop search services in the search results of the Google search engine. Such practices allowed Google to leverage its market power in general search to the market of specified shopping search. In *Google Android* (Case AT.40099) Commission decision of 17 July 2018, Google abused its dominant position by tying the Google Search App and the Chrome Browser to the Google Play Store which allowed it to maintain and increase its market power in the market for general search.

5 Robert O'Donghue and Jorge Padilla, 'The law and Economics of Article 102 TFEU' (2nd Edition, Hart Publishing, United Kingdom, 2013) at 250-256; See e.g. Magali Eben, 'Fining Google: a missed opportunity for legal certainty?' (2018) 14 (1) European Competition Journal 129.

6 *Google Android* (Case AT.40099) Commission decision of 17 July 2018.

7 See e.g. Pablo Ibanez Colomo, ' The Android decision s out: the exiting legal stud beneath the noise' ChillinCompetition Blog (18 July 2018) https://chillingcompetition.com/2018/07/18/the-android-decision-is-out-the-exciting-legal-stuff-beneath-the-noise-by-pablo/ > accessed 20 May 2019.

8 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne, 'Platform Envelopment' (2011) 32 (12) Strategic management Journal 1270.

same undertaking.[9] The tied product or service in such cases can nevertheless be acquired separately. Bundling practices entail a form of mutual tying where the tying and tied products can only be obtained together.[10] In cases where the undertaking that adopts such strategies enjoys a position of dominance in the tying product market or one of the bundle product markets competitive concerns may arise. Such concerns include the risk of foreclosing competing undertakings that cannot match these such multi-product offers as well as the extraction of additional profits from customers who may only be interested in acquiring one of the products or services offered by the dominant undertaking.[11] At the same time, tying and bundling practices have also been found to produce various efficiencies such as ensuring product quality and reducing distribution and search costs that may even intensify competition and increase welfare.[12] These two facets of tying and bundling practices have led to a complex line of case law in the EU where the legal framework for assessing such cases gradually evolved into a four-tier test.[13]

Applying this current framework to the business practices of online platforms will entail, however, a challenging process due to their complex technical and economic nature. Accordingly, an adequate application of the current framework requires that the distinctive characteristics of online platforms and their common business practices be correctly framed for the purpose of a competition law assessment.[14] The framing process for tying and bundling would firstly require identifying the tying or bundling of functionalities on the platform or the tying or bundling across platforms

9 E.g. most if not all smartphones today are sold together with a charger and earphones that are calculated in the package price; the purchase of a standalone smartphone without these accessories is not possible despite the fact that the accessories can be acquired in a standalone fashion.

10 E.g. the three-in-one packages often offered by telecom providers that include subscription to television, internet and telephone services in one contract.

11 E.g. the inclusion of media player and internet explorer by Microsoft in its Window OS suit allowed it to eliminate Netscape from the internet browser market and prevent RealTime player from gaining traction in the market for media players.

12 See e.g. David W. Hull, 'Tying: A Transatlantic Perspective', in Handbook of Research in Trans-Atlantic Antitrust, ed. by P. Marsden, pp. 287–318 (Edward Elgar Publishing Limited, 2006) at 289-290.

13 See e.g. Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) at 440-450; Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 850-869. Accordingly, the finding of anti-competitive tying or bundling practices requires showing that (i) the concerned undertaking must have a dominant position in the tying market or the market of one of the bundled products, (ii) the undertaking must be tying or bundling two separate products (iii) customers are coerced into obtaining the tied and tying products or the bundled products together (iv) the tie has a foreclosure effect and (v) there is no objective justification for the practice.

14 See e.g. Julian Wright,' One-Sided Logic in Two-Sided Markets '(2003). AEI-Brookings Joint Center Working Paper No. 03-10. Available online at: < https://ssrn.com/abstract=459362>.

as a whole to each other. Functionality tying or bundling would occur for example if booking a hotel room on Expedia would be possible only in combination with the booking of a rental car whereas cross platform tying or bundling would be for example a requirement to have a Facebook account to sign up to Instagram. Secondly, the pro and anti competitive effects that may arise following such strategies should be assessed in light of the commercial link between the functionalities or platforms subject to tying or bundling and their multisided nature.

While these steps appear straightforward, in practice, carrying out this assessment will be cumbersome. The essence of tying or bundling separate products or services is far more elusive when dealing with platform functionalities and technical links between platforms operated by the same undertaking. Furthermore, in a digital world where many functionalities and platforms are provided to customers free of charge it is hard to distil an element of coercion that is required for this purpose.[15] Furthermore, observing the pro-and anti competitive effects of such practices across multiple interrelated markets has yet to become common practice, particularly in the context of the digital economy where current practice is limited to a handful of (on-going) cases.

In light of these circumstances, this contribution seeks to provide guidance as to how the current EU competition law framework should be applied when addressing tying or bundling practices by online platforms. The added value of this contribution to current practice is therefore to assist in developing an approach that will allow distinguishing permitted business practices from anti-competitive tying and bundling practices in the context of ongoing and future Art. 102 TFEU investigations concerning online platforms. This contribution to practice is achieved by the revisiting the legal framework of Art. 102 TFEU in light of the business reality and technical functionalities of online platforms. Combining these different aspects of platforms, which are currently still researched in isolation of each other, allows for a new approach to emerge that is less likely to lead to over or under enforcement errors.

15 For pricing strategies in the context of two-sided markets see Marc Armstrong 'Competition in two-sided markets' (2006) 37(3) The RAND Journal of Economics 668; Jean C. Rochet and Jean Tirole, 'Platform competition in two-sided markets' (2003) 1 (4) Journal of the European Economics Association 990. In this regard, despite the fact that end consumers will likely not be charged for their participation on the platform, and thus not be confronted with supra competitive pricing in conventional terms, supra competitive data sharing requirements or terms of use may arise in their place. For more on this see Aleksandra Gebicka, Andreas Heinemann, 'Social Media & Competition Law' (2014) 37(2) World Competition 149, 164–165.

In order to produce a coherent and thorough inquiry capable of providing practical guidance, this article will be divided into three sections following this introduction. In the first section, the article will address the business practices of online platforms and their technical manifestation, which may give rise to situations that qualify as tying and bundling practices. In the second section, the identified theories of harm for tying and bundling practices will be discussed in order to evaluate to what extent and under which circumstances such practices may produce anti-competitive effects. Finally, the third section will examine the legal criteria of Art. 102 TFEU for tying and bundling cases in order to assess how these can be applied to online platforms as they stand or subject to specific adjustments, followed by concluding remarks.

4.2 The life story of online platforms – from launching to tying and bundling

4.2.1 Launching phase – managing interactions and achieving critical mass

Online platforms are not an entirely new phenomenon but rather an improved version of more traditional platforms such a newspapers, shopping centers and credit cards. The application of the platform structure in the online sphere enhances its business potential by removing a great deal of the market entry barriers and expansion constraints that are usually experienced by offline (platform and non-platform) undertakings.[16] The current and common competition law approach to online (and offline) platforms is based on the economic model on which they rely, namely that of a two- (or multi) sided market. Despite the different definitions of two- (or-multi) sided markets found in economic literature, there is some agreement with regards to several core characteristics that such markets or platforms must exhibit, which are also observable in the case of online platforms. Accordingly, there must be (i) an interaction between two or more separate customer groups on the platform; (ii) which exhibits indirect network effects; (iii) and the platform is necessary for internalizing the externalities created by one group for the other group.[17]

16 Bertin Martens, 'An Economic Policy Perspective on Online Platforms', Institute for Prospective Technological Studies Digital Economy working paper 2016/05, pp. 12. https://ec.europa.eu/jrc/sites/jrcsh/files/JRC101501.pdf (accessed 9 Jun 2020)..

17 Bertin Martens, (2016) *supra* (n 16), at 10-18; Commission staff working document on online platforms {COM(2016) 288} , SWD(2016)172, at. 1-9; OECD Round table on two-sided markets [2009] DAF/COMP/WD(2009)69, at 3.

Two- or multi sided (online and offline) platforms have a significantly different approach to value creation compared to non-platform single-sided businesses. The creation of value by non-platform undertakings commonly follows a linear path throughout the entire chain of distribution from production to the end customer where each link in the chain adds a certain unit of value before being sold onwards. By contrast, the creation of value in the case of platforms occurs following a successful triangular relation where the added value of the platform lies in enabling the interaction between two (or more) of its separate customer groups.[18] Consequently, in their early stages all platforms (online and offline) face the same problem when deciding to enter a specific market, namely getting all the needed customer groups 'on-board'. A marketplace without sellers is just as unattractive to buyers as a marketplace without potential buyers is to sellers, regardless of whether the marketplace is digital or physical. In order to successfully launch, a platform must first convince (at least) one customer group to join the platform before members of the other customer group(s) necessary for the interaction also join. Once one group of customers joins the platform it will form part of the value proposition offered by the platform to attract the other needed customer group(s) to join.[19] This coordination challenge, commonly referred to as the 'chicken-and-egg' problem, faced by platforms is difficult to overcome. The members of the first customer group to participate on the platform often have nothing to gain from their participation in the absence of participation by additional customer groups on the other side(s) of the platform and are therefore difficult to attract.[20]

In order to overcome this obstacle, various launching and growth strategies have been adopted by online platforms based on the nature of the value they seek to create and monetize.[21] Generally speaking, in the initial launch phase an important decision in the process of getting all customers groups on board is whether to attract such groups sequentially (first side A and

18 Jean-Chalres Rochet and Jean Tirole, 'Two-sided markets: a progress report' (2006) 37(3) The RAND Journal of Economics 645.

19 The value proposition refers to the value that an undertaking promises to deliver to its customers if they choose to acquire its service and / or products.

20 Bernard Caillaud and Bruno Jullien, 'Chicken & Egg: Competition among Intermediation Service Providers' (2003) 34(2) The RAND Journal of Economics 309. Perhaps the only exception to this problem are peer-to-peer platforms such as EBay and Airbnb as the customers of these platforms can in most cases participate on both sides of the interaction (or platform). Sellers on EBay are often also buyers and users on Airbnb can choose to either offer their residence for short terms stay or rent one from other users.

21 For an overview on various launching strategies see e.g. Nina-Birte Schirrmacher, Jan Ondrus and Thomas Kude, 'Launch strategies of digital platforms: platforms with switching and non-switching uses' In Proceedings of the 25th European Conference on Information Systems (ECIS), Guimarães, Portugal, June 5-10, 2017 (pp. 658-673). ISBN 978-989-20-7655-3 Research Papers.<https://aisel.aisnet.org/ecis2017_rp/43> accessed 17 Sep. 2018.

then side B) or simultaneously.[22] If the launching phase is successful, online platforms may eventually achieve critical mass and thus become viable, essentially paving the way for sustainable growth.[23] Of course, the realization of a successful platform requires not only a well-designed launching strategy but also constant refinement of the platform's interaction(s) as well as pricing structure and governance adaptations in order to maintain a healthy balance in the volume of the various customer groups of the platform.[24]

In practice, the multisided character of online platforms translates into facilitating some form of matchmaking interactions or functionalities between their various separate customer groups.[25] The terms interaction and functionality are used interchangeably in the context of this contribution. The variety of match-making interactions can, generally speaking, be divided into two categories, namely unilateral and bi (or-multi) lateral matching interactions, which are monetized in various ways depending on the value that the platform wishes to create for its customer groups.[26] Unilateral matching occurs when members of two customer groups are matched but only one of the two is interested in the matching taking place. By contrast bi (or-multi) lateral matching refers to a situation where the platforms matches between members of two (or more) customer groups and all parties involved in the interaction are interested in this matching interaction.[27] In this later case, the customer groups that participate in the matchmaking functionality in essence come to the platform to interact with each other. In this regard, YouTube can serve as a good example for an online platform that facilitates both types of matching interactions. Accordingly, on YouTube users are exposed to non-search display and video advertisements (unilateral matching) before being allowed to view videos uploaded by professional content creators such as *VEVO* (bilateral matching).

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22 See e.g. David S. Evans, 'How Catalysts Ignite: The Economics of Platform-Based Start-Ups'. In A. Gawer, (ed.), *Platforms, Markets and Innovation* (Edward Elgar, 2009) <https://ssrn.com/abstract=1279631 >accessed 17 Sep. 2018.

23 David S. Evans and Richard Schmalensee, *The Antitrust Analysis of Multi-Sided Platform Businesses* in Roger Blair and Daniel Sokol, (eds.), *Oxford Handbook on International Antitrust Economics* (Oxford University Press 2014); D.S. Evans and R. Schmalensee, *Failure to Launch: Critical Mass in Platform Businesses* (2010) <https://ssrn.com/abstract=1353502 > accessed 3 Jul 2017.

24 See Andrei Hagiu, 'Pricing and Commitment by Two-Sided Platforms' (2006) 37(3) The RAND Journal of Economics 720; Kevin J. Boudreau and Andrei Hagiu. 'Platform Rules: Multi-Sided Platforms As Regulators' in A. Gawer, (ed.), *Platforms, Markets and Innovation* (Edward Elgar, 2009).

25 Bertin Martens (2016) *supra* (n 16), at 20.

26 Such monetization modalities can include pay-per-click ads, personal data registration, per-transaction fees, membership fees and others.

27 Daniel Mandrescu, 'Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)' (2018) 41(3) World Competition 453, 464–468.

The difference between the two types of matchmaking interactions is reflected by the direction and nature (positive or negative) of the indirect network effects that are inherent to online platforms.[28] Bi-or multilateral matching interactions display positive indirect network effects with respect to all of the customer groups they connect.[29] This can be observed in the case of hotel booking platforms, like Booking.com, that facilitate such matchmaking functionalities. The more hotels participate on the platform, the more customers it will attract as well as the other way around. In the case of unilateral matching interactions, indirect network effect will, however, be positive only for one or some of the customer groups they connect.[30] Going back to the YouTube example, this means an increase in users on YouTube makes it more attractive for advertisers; however, the opposite is not true when considering an increase in advertisers with regard to users.

The importance of understanding the relations between the various customer groups of platforms cannot be overstated. The direction and intensity of the indirect networks effects will influence the entire decision-making process throughout the life cycle of the platform. Accordingly, the type of interactions adopted by the platform is not only important in the launching phase but also determines greatly the potential effects of the tying and bundling practices that may be implemented in the process of expansion as will be discussed in the following sections. Furthermore, the chosen interaction type will also determine the pricing structure and levels of the platform from the launch phase onwards.[31] Considering that the separate customer groups of platforms practically never value their mutual participation identically, the relation between network effects and pricing structure often results in a skewed structure where one customer group pays little or nothing while the other customer groups pay substantially more.[32] This impact of the relation between the customer groups of the platform is further complemented by their multi- or single homing partici-

28 Ibid; Jean-Chalres Rochet and Jean Tirole,' Two-sided markets: An overview', (2004) 5-6. <https://pdfs.semanticscholar.org/1181/ee3b92b2d6c1107a5c899bd94575b0099c32.pdf> accessed 3 Jul 2017.

29 Accordingly, an increase in members of customer group A that is part of a bilateral matching interaction with customer group B will increase the value of the interaction and thus of the platform for group B and vice-versa.

30 In a case involving a unilateral matching interaction between customer groups A and B, an increase of members in customer group A will increase the value of the interaction and the platform for customer group B but this does not apply the other way around.

31 Marc Rysman,' The Economics of Two-sided Markets', (2009) 23(3) Journal of Economic Perspectives 125, 129-131.

32 Ibid; OECD Round table on two sided markets (2009), *supra* (n 17), at. 8-12. Accordingly, the more a member of customer group A values the participation of a member of customer group B, the higher the participation fee of the customer group A will be.

pation patterns,[33] where single-homing customers are considered more valuable and are thus generally subject to lower prices than multi-homing customers.[34] In practice, it is rather common that the participation of end consumers on the platform is subsidized by the other customer groups of the platform, which often consist of undertakings that use the platform as a sales channel or advertisement tool.[35] Getting the pricing structure and levels right is evidently very important for optimizing the volume of participants on the platform as well as making sure that the platform operates profitably. Failing to optimize its pricing would essentially result in the inability of the platform to utilize the indirect network effects between its customers groups to gain traction or would otherwise reverse the nature of such network effects from positive to negative, creating a snowball effect towards market exit.[36] Therefore, similarly to the choice of interaction, adopting a suitable price scheme and level will also affect the profitability of any expansion strategy as well as tying and bundling practices if pursued by the concerned platform.

In addition to pricing optimization, the platform must also attend to the governance structure for the interaction it seeks to facilitate in order to optimize the value creation and monetization as well as to prevent undesired practices by its customer groups.[37] The term governance in this context refers to the set of rules that are established by the platform to determine

33 See e.g. David S. Evans, 'Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms' Coase Sandor Working Paper Series in Law and Economics, No. 753 (2016), 8-9 < https://ssrn.com/abstract=2746095> accessed 14 Sep 2018. Single homing refers to the situation where a customer group of a platform uses a single platform to meet one of its specific demands for a product or service. Multihoming, by contrast, farers to the situation where a customer group of a platform uses multiple platforms to meeting the same demand for a service or product offered by the platform. For example, consumers often tend to use a single credit card per bank account rather than serval due to membership costs whereas most merchants accept multiple types of credit cards as a means of payment. Therefore, in practice platforms have an incentive to ensure that at least one of their customer groups is single homing in order to obtain higher rents from the other customer groups. Achieving this, however, requires surviving often very intense competition with other platforms.

34 See e.g. David S. Evans and Richard Schmalensee (2014) *supra* (n 23). This is because the only way to reach those customers is through their favorite platform that essentially creates a competitive bottleneck that grants the platform monopoly powers over the access to such customers and thus allows it to charge ultra-competitive prices from the other customer groups.

35 Sales channels can come in the form of online marketplaces (Amazon, Taskrabbit) but also booking platforms (Expedia), delivery platforms (Ubereats, Deliveroo) and others. Advertisement tools include platforms such as vertical search engines (Skyscanner) and price comparison websites (PriceGrabber).

36 Mark Armstrong'(2006) *supra* (n 15); David S. Evans 'The Antitrust Economics of Multi-Sided Platform Markets' (2003) 20(2) Yale Journal on Regulation 327.

37 Kevin J. Boudreau and Andrei Hagiu (2009) *supra* (n 24); David S. Evans, Governing Bad Behavior By Users of Multi-Sided Platforms' (2012) 27(2) Berkeley Technology Law Journal 1201.

which actors are eligible to participate on the platform and regulate the actions of such parties when interacting on the platform.[38] The governance adopted by the platform is intended to ensure that the right type of actors are attracted to the platform and that their practices further contribute to the creation and increase of positive (indirect) network effects. Accordingly, such rules cover matters such as openness, control, quality assurance and curation, and of course exclusion possibilities or other penalties.[39] Therefore, when adopted, tying or bundling practices will also constitute a part of such governance that may be implemented in a contractual form via the platforms' terms and conditions, in technical form or a combination of both. Determining the exact criteria of the governance rules in each case depends on the kind of value the platform seeks to create and monetize and will therefore vary across platforms.[40] Once the platform manages to optimize these settings with regard to its specific business model it may eventually achieve the minimal threshold of profitability, namely 'critical mass'.[41] When this stage has been reached, the online platform is considered viable and can proceed with maximizing the value creation and monetization of the interaction it facilitates – a process also referred as increasing the depth or core base of the interaction.[42]

Optimizing the interaction translates in essence to continuously reducing the various costs incurred by the interacting customer groups of the platform, such as information, search and transaction costs.[43] By reducing such costs the platform increases the value of its interaction leading to a likely increase in the participation levels on the platform due to the indirect network effects at play, thus increasing the volume of profit-making interactions. This increased participation may also raise the willingness of the platforms' participants to pay higher fees for their participation, thus increasing the profitability of the platform not only in terms of volume of

38 Ibid.

39 Amrit Tiwana, Platform Ecosystems: Aligning Architecture, Governance and Strategy (Morgan Kaufmann Publishers Inc , San Francisco, 2014).

40 For various possibilities see e.g. David S. Evans (2012) *supra* (n 37); Andreas Hein, Maximilian Schreieck, Manuel Wiesche and Helmut Krcmar,'Multiple-Case Analysis on Governance Mechanisms of Multi-Sided Platforms' (2016) < http://andreas-hein.info/portfolio/MKWI_2016_Paper_Camera_Ready_256.pdf> accessed 17 Aug. 2018; David S. Evans, 'The Antitrust Analysis of Rules and Standards for Software Platforms' (2014) 10(2) Competition Policy International 71.

41 David S. Evans and Richard Schmalensee (2014) *supra* (n 23); David S. Evans and R. Schmalensee (2010) *supra* (n 23).

42 See e.g. Andrei Hagiu, 'Multi-sided platforms: From microfoundations to design and expansion strategies' (2007) Harvard Business School Strategy Unit Working Paper (09-115) <https://ssrn.com/abstract=955584> accessed 14 Aug. 2018.

43 Ibid.

interactions but also with regard to profit per successful interaction.[44] In the framework of such a value optimization process, the platform may gradually seek to increase its geographical reach once sufficient relevant density for the interaction facilitated by the platform can be guaranteed. The pattern for geographical growth and its profitability depends, however, on the existence of territorial consumption constraints for the interaction.[45] Choosing the wrong approach to territorial growth runs the risk of diminishing the quality and value of the platform as it may increase instead of reduce the costs for the platform participants.[46] When the commercial potential of its core matching interaction is utilized to a significant extent, the platform moves on to its next evolutionary step, namely the expansion stage where tying and bundling practices become conceivable and in many cases desirable for the platform. Similarly to the launching phase, the maturity phase during which the platform must expand entails many of the same strategic considerations. Accordingly, when expanding, a platform must once again: select the (additional) customer groups that may join the platform, adjust the pricing scheme and level of the platform to cover any additional costs, and adapt the governance rules to the new dynamics on the platform.

4.2.2 Maturity phase – the path towards expansion and tying

In the mature stage of the online platform life cycle, expansion entails an inevitable step that each platform must take in order to continue operating profitably in the long run. Platforms that do not (or cannot) take this step will struggle to continuously increase revenues and risk being overtaken by direct competitors that are able to expand as well as by platforms active in related markets that may become close competitors through expansions. From a competition policy perspective, it is only at this later stage that tying and bundling practices are capable of raising competitive concerns if

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44 Increased fees can, however, only be charged to the customers of the platform who pay to participate on the platform to begin with. Customers, often end consumers, who are not charged for their participation are also not likely to experience any rise in price. In this regard, maximizing platform participation must take into account the costs incurred by the platform for such increased participation in order to prevent negative returns on such growth which may harm viability in the long run.

45 For example, growth of platform participation and thus of interaction volume on a platform like Uber requires a city-by-city approach within the territory of any given country as most Uber or taxi rides occur within the premises of the city. By contrast, a video sharing platform like YouTube can invest in raising the volume of both content creators and viewers as the interaction between these two customer groups is generally less restricted territorial preferences or limitations.

46 See the example of OpenTable in David S. Evans and Richard Schmalensee, Matchmakers: The New Economics of Multisided Platforms (Harvard Business Review Press, Massachusetts, 2016) chapter 1; Sangeet Paul Choudary, Platform Scale: How an Emerging Business Model Helps Start-Ups Build Large Empires with Minimum Investment (1st ed. Platform Thinking Labs Publishing 2015) at 260–309.

implemented. A platform that is in the process of figuring out how to reach and maintain critical mass can hardly be described as an undertaking with substantial market power as would be needed in order to interfere with the competitive process and trigger (EU) competition law scrutiny.

A. Expansion motives – short term increase in revenue and long term competitive superiority

Generally speaking, the rationale behind expansion is twofold. First, in absence of expansion the platform often cannot significantly increase its profits.[47] The value creation and monetization by the platform is based on extracting a remuneration for the interaction it facilitates. Although online platforms face fewer constraints with regard to growth they also have a limit with regard to the volume of participants they can accommodate.[48] This volume limit can be due to on-platform congestion restrictions as well as due to intense competition on a rather concentrated markets.[49] Once the volume limit has been reached and the value extraction for the specific interaction facilitated by the platform has been maximized, the primary remaining option to generate additional revenue is expansion. By offering another matching functionality, the platform can, in essence, follow the same pattern it did with its initial interaction but without necessarily facing the chicken-and-egg launching problem again. Once the platform is well positioned in the market for its initial interaction, it has a significant customer base that it might be able to leverage when expanding if there is a certain overlap in the customers of the initial interaction and the new interaction. For example, Booking.com started off by allowing consumers to book hotel rooms and has gradually expanded to its current structure which consists of four bilateral matching interactions allowing consumers to book hotel rooms, flights, rental cars and airport taxis. Expanding from the initial mutual matching interaction to the other three interactions was possible for Booking.com as the consumer side of these interactions overlaps greatly. Consequently, when adding the possibility to book rental cars, Booking.com only needed to bring the car rental companies on board as a great deal of the consumers were already using the platform. This overlap in customer base for multiple interactions significantly reduces the difficulty of expanding into new markets for online platforms as it allows them to further utilize the indirect network effects present on the platform. If the expansion process is successful, the platform may enlarge its customer base on all the sides of the

47 The alternative for expansion in such cases is to pursue some form of disruptive innovation, however, such a path is hardly a realistic option for most companies as it is extremely challenging and a successful outcome is rarely achieved.

48 David S. Evans and Richard Schmalensee, 'The Industrial Organization of Markets Based on Two-Sided Platforms' (2007) 3(1) Competition Policy International 151, 163-166.

49 Ibid.

platform and offer all of its customer groups better value propositions.[50] By doing so, the platform increases the volume of profitable interactions and perhaps also the willingness of its customer groups to pay higher fees for their participation, thus generating more revenue.[51]

The second, and perhaps the more important, reason for platforms to expand is to remain competitive and survive the intense competition among platforms that compete in the same market(s) as well as between platforms active in neighboring markets.[52] In a market that is often characterized by dynamic competition and winner-takes-all tendencies it is important for platforms to secure their position in the market in order to survive. In essence, this requires platforms to establish and maintain a large and stable customer base, which is by no means an easy task when involving customers (often end consumers) that are subject to low switching costs. By facilitating an additional interaction, the platform is able to offer such customers a better deal and prevent them from switching to competing platforms while also increasing the participation on the platform at the cost of direct and indirect competitors and thus gaining a competitive advantage.[53] For example, car rental booking platforms offering only a single interaction – namely the car rental booking functionality – will have a tough time competing for consumers with platforms that offer multiple related or complementary interactions like Booking.com. Similarly, a functionality or interaction expansion can also shield the platform from competitive threats posed by platforms that may be active in neighboring markets with an overlapping customer base and provide it with a competitive advantage when entering such markets. For example, flight booking platforms and hotel booking platforms are not direct competitors; however, given the great overlap in their customers base, expanding to each other's markets by leveraging their customer base towards a new interaction will allow them to rapidly to become key actors in both markets. By expanding, the platform is able to engage in what is referred to as 'envelopment attack' on other platforms in neighboring markets, allowing it to achieve significant presence on both markets at the expense of platforms facilitating only one of its interactions.[54] Therefore, the first mover advantage of expansion for such

50 In the case of Booking.com, the current set of booking services offered to consumers is of greater value than the initial version of Booking.com which included only the option of hotel room booking. Therefore by increasing the value offered to consumers Booking.com is able to better attract them to its platform.

51 Hotels participating on Booking.com can pay these days a commission of up to 25% of the entire booking order. See pricing scheme at https://partnerhelp.booking.com/hc/en-us/articles/212708929-How-much-commission-do-I-pay- .

52 Andrei Hagiu (2007), *supra* (n 42); Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne (2011), *supra* (n 8).

53 Ibid.

54 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne (2011) *supra* (n 8).

strategic purposes may be significant. When network effects are significant and expansion is cumbersome (technically, financially or a combination of both) the first platform to expand, other things being equal, may become dominant in both markets. Conversely, when expansion by competitors is or can be replicated, such strategy may lead to intensified competition among platforms offering extended interaction packages.[55] However, successful expansions should by no means be taken for granted as they entail complex strategies that can backfire if not managed with calculated precision. The importance of choosing the correct strategy can be seen in the case of Yahoo and Google and their growth strategies in the early 2000's. Google's strategy focused on creating growth based on improving and expanding its existing products and services that propelled it to a market leader position. By contrast Yahoo's strategy was more dispersed and spread across many unrelated products and services that turned out to be too difficult to manage and coordinate.[56] Therefore, while platforms could in principle expand before securing a significant customer base with regard to their initial interaction, a premature expansion may bring about complications that put the success of the platform as a whole at risk.[57]

B. Expansion strategies – on platform vs. cross platform

In the process of expansion platforms have, generally speaking, two modalities according to which they can facilitate additional interactions to the one(s) they offered when launching; namely on-platform or cross platform expansion. In operational terms, the additional interactions a platform might adopt are the same ones with which it can launch, namely an interaction that facilitates unilateral matching or bi (or multi) lateral matching. On-platform expansion entails simply adding matching interactions or functionalities, which are incorporated directly into the interface of the online platform as found in the case of Booking.com, a site that has multiple tabs that give access to several bilateral matching interactions. By expanding in such a manner, the expansion is directly observable by the overlapping customer base of the interactions (consisting mostly of end consumers) upon access to the platform. Due to the bi or multilateral positive indirect network effects commonly exhibited by this type of matching interactions, a comparable expansion is capable of triggering a significant increase in customer volume and profitable interactions if managed adequately. Alternatively, the platform could choose to pursue an on-platform expansion of a unilateral matching functionality, for example: non-

55 Ibid, at 1277.

56 For more on this see V. P. Rindova, A. Yeow, L.L. Martins and S. Faraj 'Partnering portfolios, value! creation logics, and growth trajectories: A comparison of Yahoo and Google (1995 to 2007)' (2012) 6(2) Strategic Entrepreneurship Journal 133.

57 Sangeet Paul Choudary (2015) *supra* (n 46) at 260–309.

search display advertising. In this scenario the additional interaction will not generate an increase in the customer base volume but rather provide for a supplementary source of revenue generated from access to the existing customer base of the platform by a new customer group. For example, if Booking.com would start displaying non-search ads for suitcases, these ads could generate some additional revenue as all the members of the consumer side of Booking.com are likely to need to buy a suitcase at some point and are thus likely to click on such ads. However, adding this interaction will not bring more customers (consumers) to the platform since non-search ads exhibit generally positive indirect network effects only with respect to advertisers.[58] Therefore, a comparable expansion strategy will not constitute a very valuable strategy for strengthening the competitive position of the platform in the long run.

The second expansion modality that a platform has is cross-platform expansion with cross platform linkages. Accordingly, instead of adding a supplementary matching interaction on the platform, the expanding platform entity launches a separate platform for this purpose. In this scenario, the overlapping customer base of the two (or more) platforms serves as a hub between them, enabling the leveraging of the overlapping customer base from the initial platform across the new platform(s). Examples of this expansion strategy can be seen in the case of Uber, Google and Microsoft, which have multiple platforms linked to a single customer base (consisting of end consumers) by way of a universal sign-in account. Similar to on-platform expansion, the choice of expanding by way of a bi (or multi) lateral matching interaction may prove to be superior to expanding with a unilateral matching interaction. Due to the fact that the expansion occurs on a separate platform, adding a unilateral matching interaction does not provide the platform with an easy way to extract additional rents for accessing its existing customer base. In order to expand in such a manner the platform will have to design another service designed to attract one group of customers, such as providing news feeds, so as to extract rents from the other side of the platform consisting of advertisers that are interested in reaching these consumers. This essentially entails bringing the platform back to square one, namely back to the pursuit of critical mass. Consequently, such a strategy may constitute a rather costly plan for extracting additional revenues with limited capability in enhancing the intensity of indirect network effects across the customer groups participating in such a hub-and-spoke construction. Admittedly, platforms could also chose to expand by means of providing an additional single-sided product or service to one of its customer groups. However, since such a

58 See e.g. David. S. Evans, The Economics of the Online Advertising Industry (2008) 7(3) Review of Network Economics 359.

choice is less likely to constitute a competitive concern in the context of tying according to economic literature,[59] it falls outside the scope of this article.

In light of the above, it is primarily bi- or multi-lateral matching interactions that enable the leveraging of the platforms' customer base from one market to another, which may lead to some degree of foreclosure. This is due to the mutual positive indirect network effects displayed by such interactions that translate into increased participation by all of the platforms' customers groups following such type of expansion. By contrast, expansions through the adding of unilateral matching interactions will often not generate an increase in participation as such expansion does not inherently increase the value of the platform for all its customer groups. Therefore, in light of these differences in the foreclosure potential of these two types of interactions arising post expansion, the following sections address only the bundling or tying of bi- (or multi) lateral matching interactions.

In addition to the choice of interaction that is added by the platform, the choice between on-platform and cross-platform expansion also differs in terms of ability to enhance the intensity of indirect network effects across the various customer groups of the platform. An on-platform expansion is instantly visible to the platforms' participants directly propelling its existing customer base towards the added interaction. By contrast, cross-platform expansion is less visible for the existing customer bases of the platform and thus requires more action on its behalf to make customer base use its newly launched platform(s) in order to reach this same outcome. This difference does not necessarily mean, however, that cross-platform expansions are inferior to on-platforms ones as indirect network effects can also work in reverse when customer switch occurs.[60] Accordingly, the visibility of on-platform expansions may prove to be a disadvantage if the added interaction does not live up to customer expectations, while the reduced visibility of cross-platform expansions may provide more leeway to experiment with new services.[61] These differences between the expansion

59 Jay P Choi and Doh-Shin Jeon, 'A Leverage Theory of Tying in Two-sided Markets' (2016) CESIFO Working Paper No. 60073 at 4. This is particularly so if the single- sided tied product or service is positively priced. Furthermore, while the platform could chose to tie a single-sided and zero priced product or service to the platform, the costs for such an addition must be recouped from the already existing platform customers which may undermine the effectiveness of pricing scheme and level of the platform. Moreover, such a strategy would not likely make use of the growth potential of the indirect network effect at play therefore making it potentially less effective in extracting additional revenues and securing a stronger competitive position on the platform market.

60 Kalina S Staykova & Jan Damsgaard, Platform Expansion Design as Strategic Choice: The Case of WeChat and Kakaotalk (2016) Research Papers 78 (2016) https://aisel.aisnet.org/ecis2016_rp/78 (accessed 3 Sept. 2017); Andrei Hagiu (2007) *supra* (n 42).

61 Kalina S Staykova & Jan Damsgaard (2016) *supra* (n 60).

modalities will in turn also determine the selection of the interaction from a business perspective that can constitute a complementary, a weak substitute, or an unrelated service or product for the existing customer groups of the platform.[62] Finding the path of least resistance towards a successful expansion consequently entails finding the right combination between expansion modality, the type of matching interaction and the nature of such interaction from a business perspective. Once the decision to expand has been put into practice, leveraging the existing customer base of the platform from one interaction to another may require introducing various contractual or technical links between such interactions, which may qualify as tying and bundling under EU competition law.

C. *From expansion to tying and bundling – a progressive sequence of persuasion tactics*

Tying and bundling are common business practices that consist of the combined sale of two or more products or services. Such practices can be observed in almost any given industry and are usually considered beneficial by the companies employing them as well as their customers.[63] In practice, there are multiple forms of tying and bundling that can be distinguished; however, these can typically be divided into three types: tying, pure bundling and mixed bundling.[64]

Tying refers to a situation where the provision of a product or service (the tying product) by an undertaking requires obtaining a second, separate product or service (the tied product), from the same undertaking. The tied product in such a scenario can, however, be obtained as a stand-alone product.[65] The two products can be tied technically or contractually. Technical tying can occur for example when the tying product is physically attached to the tied product or designed to function correctly only in combination with the tied product and not with alternatives provided by competitors. Contractual tying occurs when the customer that purchases the tying product is bound by contractual obligations to also acquire the tied product.[66] Pure bundling refers to a situation wherein a series of products offered by an undertaking can only be purchased jointly in fixed proportions; the purchasing of individual products in such cases is not possible.[67]

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62 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne (2011) *supra* (n 8) at 1279-1282.

63 Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) 332–335;

64 Case T-210/01 *General Electric v Commission* [2005] ECLI:EU:T:2005:456, para. 406.

65 Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings (2009/C 45/02), para. 48 (hereinafter referred to as The Commission's Guidance paper on Article 102 enforcement priorities).

66 Ibid.

67 Ibid.

Due to this similarity, the assessment of pure bundling is in practice not significantly different from that of tying.[68] To the extent that the difference between the two practices may lead to different legal outcomes an explicit distinction between the two will be made.

Finally, mixed bundling refers to a situation wherein each of the products offered by an undertaking can be obtained separately as well as in a bundle. When the products are purchased as a bundle the price of such a bundle is lower than the sum of all the products in the bundle if bought separately.[69] Accordingly, this strategy does not force customers to purchase multiple products at once from the same undertaking, but only incentivizes them to purchase the bundle by offering a better deal for the joint purchase.[70] That is not to say, however, that mixed bundling is always harmless. When the products offered as a mixed bundle are complementary and the bundle price savings are significant the outcome may be similar to tying thus equally justifying legal scrutiny.[71] When considering the actions that platforms must take in order to make their expansion attempts successful it is not hard to see how some of these actions may match some of these descriptions.

The successful deployment of a platform expansion strategy requires leveraging a customer group (composed primarily of end consumers) from one interaction to another, which would entail multiple contractual and technical tactics that differ in their degree of interference with customer choice. The more coercive these tactics are, the more they will resemble the effect that tying and bundling practices have on consumer behavior and thus the more likely to trigger competition law scrutiny.

Platforms pursuing on-platform expansions can, in the most extreme case, make the use of one interaction on the platform conditional upon using another interaction. For example, this would be the case if consumers wishing to book a room on Expedia would also be obliged to obtain their flight through the site. This would maximize the degree of leveraging from one interaction to another; however, if switching costs are low, this strategy would risk the reversal of the network effects when competing standalone platforms offer these separate interactions.

68 Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) 439.

69 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 48.

70 Barry Naleuff, 'Exclusionary bundling' (2005) 50(3) The Antitrust Bulletin 321.

71 Barry Nalebuff, 'Bundling, Tying and Portfolio Effect' (2003) DTI Economics Paper No.1 Part 1. <http://faculty.som.yale.edu/barrynalebuff/BundlingTyingPortfolio_Conceptual_DTI2003.pdf>accessed 10 April 2018. However, due to the extremely limited case law concerning this category its will not be explored further in the scope of this contribution.

A more subtle approach would entail a configuration where the use of one interaction triggers the functioning of a separate interaction without the request of the customer but does not impose a duty on the customer to use it. For example, a consumer booking a hotel room on Expedia could also be presented with price comparisons for flights or rental cars for the same dates without making that request. Such unsolicited triggering of interactions can also be accompanied by repetitive nudging, pushing the consumer towards actively making use of such additional interactions. Practices such as these entail a *de facto* form of tying or bundling as they introduce a conditionality aspect to the choices made by customers with regard to using one or more of the platforms' interactions. Furthermore, when the interactions constitute sales channels, thus enabling some form of monetary transactions like in the case of Expedia, price reductions for the bundled use of two (or more) interactions may also be offered and combined with nudging and the unsolicited triggering of interactions. Although these latter actions do not impose direct restrictions on the customers' freedom of choice, they can have a significant influence on their choices.[72] Of course when the monetary incentives for the bundled purchase are significant such actions can entail a form of mixed bundling, which may have a similar coercive effect as tying and (pure) bundling.[73] It is worth noting that on-platform customer leveraging strategies are not necessarily limited to end-consumers but can also be applied to other platform customer groups. This can observed for example in the case of Amazon Italy where Amazon (allegedly) gives preferential treatment on the Amazon Marketplace to sellers that make use of Amazon's logistic services. By doing so, Amazon is able to enter the logistic market where it may compete with undertakings such as UPS, FedEx or DHL and capture some of the fees often incurred for the delivery services often provided by these parties by buyers and sellers on Amazon Marketplace.[74]

Platforms pursuing cross-platform expansions can undertake relatively similar steps when attempting to leverage their customer base across two (or more) platforms. The most restrictive approach in this scenario would be making use of one platform conditional upon the usage of another platform owned by the same commercial entity. This strategy was applied to a great degree in the early days of EBay where all its customers (buyers and sellers) had to make use of PayPal when conducting transactions via

72 See e.g. Christoph Schneider, Markus Weinmann and Jan vom Brocke, 'Digital Nudging–Guiding Choices by Using Interface Design' (2018) Communications of the ACM, 61(7), 67-73< https://ssrn.com/abstract=3052192> accessed 15 Dec. 2018.

73 See e.g. Barry Naleuff, 'Exclusionary bundling' (2005) *supra* (n 70).

74 See Elizabeth Schulze, 'Amazon faces probe from Italy's antitrust authority over abuse of market position' (16 Apr. 2019, CNBC) https://www.cnbc.com/2019/04/16/amazon-faces-probe-from-italys-antitrust-authority-over-abuse-of-market-position.html> accessed 10 Jan 2020.

the platform.[75] As mentioned above, this strategy can be very effective for customer leveraging, however, it can simultaneously be risky when competing platforms offer similar services without such restrictions on customer behavior and switching costs are low. For this reason, in cases where accumulation of more data is the main deriver of the expansion strategy, the obligation concerning the parallel use or participation on separate platforms may be subtler and limited to an obligation to share data across platforms.[76] This can be observed in the links between Facebook and Instagram,[77] as well as between many of Google's services and products.[78] Although such strategy can be considered rather aggressive from a functional point of view, the complexity of privacy policy often blurs out the implications of such data sharing obligations, making it less likely that consumers will switch to other platforms when faced with such obligations. A less coercive tactic for leveraging customers from one platform to another would be requiring the members of their overlapping customer base to set up a cross-platform customer account that automatically creates a customer profile on both platforms. However, the creation of such a cross platform customer profile does not have to come with an obligation to use all of the platforms connected to the profile. This strategy can be seen in the case of Google where using an Android smartphone, Google PlayStore, Google+ or YouTube requires having a Google account and once the account is made, the user profile exists on all such platforms. The cross-platform profile can also be combined with some form of nudging through reminding customers of the other services offered across the interconnected platforms and to the extent that such platforms help facilitate transactions, monetary incentives can also be offered. This latter option can be observed in the case of Uber and Uber Eats, which share the same consumer account sign-in and in which consumers are often provided monetary incentives to increase participation on both platforms. These actions, while varying in their degree of interfering with customer choice, may meet the descriptions of tying and bundling due to the conditionality they introduce to share data across platforms and / or have cross platform accounts.

75 Buyers and Sellers are no longer obliged to make use of PayPal as an exclusive means of transaction however buyers must still sign up to PayPal before being able to make their first transaction on EBay even when they choose to use other means of payment. See PayPal policy at: https://www.paypal.com/ws/smarthelp/article/do-i-need-a-paypal-account-to-pay-for-an-ebay-item-faq427 (accessed 5 September 2018).

76 See e.g. Daniele Condorelli and Jorge Padilla, ' Harnessing platform envelopment in the digital world' (2020) 16(2) Journal of Competition Law & Economics 143.

77 See Instagram's Privacy Policy online at <https://help.instagram.com/519522125107875> accessed 10 Apr 2020.

78 See Google's Privacy policy online at < https://policies.google.com/privacy?hl=en-US> accessed 10 Apr 2020.

In light of these circumstances, it can be said that the leveraging strategies with regard to on-platform and cross-platform expansions are comparable in their effect and aim of getting customers to single-home. Despite the interference with customer choice, in practice, the abovementioned practices are often perceived (by consumers) in a positive manner. This is in itself not surprising as such actions often reduce search and transaction costs and thus offer similar efficiencies to those identified in the context of tying and bundling practices without additional fees. Nevertheless, this common perception does not neutralize the harmful potential of such strategies. The successful deployment of the above mentioned expansion strategies by dominant platforms can enable the leveraging of customers and thus market power across various markets, which may give rise to the competitive concerns identified with respect to tying and bundling.

4.3 The anti-competitive concerns of tying and bundling

Tying and bundling practices are quite common in most industries. Nevertheless, despite their popularity the potential drawbacks that these practices can generate have raised some doubts with regard to their legality under EU competition law on several occasions. The main concern with the use of tying and bundling is that such practices are targeted at limiting the freedom of buyers to make their own choices and consequently interfering with competition on the merits.[79] Throughout the years, the multiple studies of tying and bundling that explored the anti-competitive potential of these practices have contributed greatly to the shaping and application of the current legal framework that regulates such practices.

4.3.1 Tying and bundling in traditional (single-sided) markets

The skeptical approach to tying and bundling practices in competition law originates from the leveraging theory that considered tying and bundling practices to be *per se* detrimental to competition. According to the leveraging theory, a monopolist in the market of tying product A has the ability and incentive to obtain a monopoly in the market of the tied product B if it makes the buying of product A conditional on also buying product B. By pursuing this strategy the monopolist would be able to obtain monopoly prices in market A as well as in market B. The undesired effects in such a scenario are twofold, namely; buyers are forced to buy a product they do not desire, for a monopoly price, and the monopolist gains an undeserved

79 Competition on the merits refers to competition on parameters such as price, choice, quality or innovation rather than a through means that are only made possible due to significant market power. See further discussion in OECD 'Competition on the merits' (2006) DAF/COMP(2005)27.

advantage over its competitors in the tied product market. At the time the leverage theory was at its prime, the main drive behind the opposition to tying practices was the former concern, namely the extraction of monopoly prices in both tying and tied product markets.[80]

The leverage theory on tying was, however, disproved by the Chicago School, which successfully identified a logical flaw in this theory. According to the Chicago School, the monopolist in market A has no incentive to attempt to monopolize an otherwise competitive market B because it could never extract monopoly prices in both markets.[81] According to the Chicago School, attempting to monopolize market B would likely lead to a loss of profits in the already monopolized market A. By attempting to extract monopoly prices for product B (tied product) the monopolist will lose sales of product B to competitors which in turn will also lead to a loss in sales of product A (tying product). Instead of monopolizing the market for product B, the monopolist would in fact gain more by keeping the market competitive. A competitive market would enable an increase in the purchasing of product B which in turn would also lead to an increase in the sales of the already monopolized product A.[82]

This critique has become known as the 'single monopoly profit theorem', which had significant policy implications. According to the proponents of this theory, tying could be used as a vehicle for efficient price discrimination as well as in the reduction of production, distribution and transaction costs.[83] Furthermore, tying could reduce search cost and ensure product quality.[84] By providing a strong alternative argument for tying practices indicating their potential to create multiple kinds of efficiencies, the Chicago School succeeded in changing the manner in which tying practices were perceived and advocated in favor of a *per se* legality approach in such cases.[85] Despite the better economic understanding of tying practices by the Chicago School, the single monopoly profit theorem was not without flaw. The main problem of the theorem was that it only applied under rather

80 See e.g. Ward S. Jr. Bowman, 'Tying Arrangements and the Leverage Problem' (1957) 67(19) Yale Law Journal 19.

81 See e.g. Robert H. Bork, *The Antitrust Paradox*, (New York, Basic Books, 1978) 378-379.

82 Richard A. Posner, *Antitrust Law: An Economic Perspective* (University of Chicago Press, Chicago, 1976) 170-173.

83 Robert H. Bork (1978) *supra* (n. 81) at 376-379, 390-398.

84 Robert O'Donghue and Jorge Padilla (2013) *supra* (n 5) at. 600-602; In practice, however, these arguments have been dismissed in the context of EU competition law cases, see e.g. Case T-30/89 *Hilti AG v Commission* [1991] ECLI:EU:T:1991:70 where quality and safety improvements were not considered sufficiently beneficial to overcome the anti competitive potential of such practices.

85 Christian Ahlborn, David S. Evans and Jorge A. Padilla, 'The Antitrust Economics of Tying: a Farewell to Per Se Illegality', (2004) 49(1) Antitrust Bulletin 287; Jarkko Vuorinen, 'Better together: the Evolution of tying theory and Doctrine in EU competition Law and US Antitrust Law' (2015) 1(1) Nordic Journal of Commercial Law 1, 10-11.

simple and restricted circumstances in which the tying and tied products were sold in fixed proportions and the tied market, where network effects and scale economies play no role, was perfectly competitive. Markets and tying practices are, however, unlikely to always fulfill these exact conditions in practice, thus making the theorem unsuitable as a guideline for enforcement purposes in all tying cases.[86]

Indeed, since the development of the single monopoly theorem multiple studies of tying have been undertaken that contributed to the formulation of various potential theories of harm. It was found that once the assumptions of the Chicago theorem are relaxed, the risk of leveraging for the purpose of foreclosure could become quite realistic.[87] Accordingly, if the monopolist in market A has also significant market power in market B, where competition is imperfect and scale economies and network effects matter,[88] the monopolist may have the incentive to adopt a foreclosure targeted tying or bundling practice. By adopting tying or bundling strategies under such circumstances, the concerned undertaking can prevent its competitors from reaching efficient scale in the tied product market and thus eventually forcing them out of this market.[89] These findings, which constituted the result of Whinston's seminal work, were equally dependent on a rather specific set of assumptions.[90] Reaching Whinston's conclusions requires that the dominant undertaking or monopolist is able to commit to tying so as to force competitors out of the market or at least reduce their output significantly.[91] Moreover, the success of such strategy also depends on whether the price valuations of the customers are heterogeneous or homogeneous and whether the products in each case are complements. Changes in each of these aspects could render the use of tying unprofitable. [92]

In addition to leveraging and possible foreclosure in the tied product market, more recent work on tying by Carlton and Waldman has shown that such strategies can also be deployed to exclude competitors from the

86 Robert O'Donghue and Jorge Padilla (2013) *supra* (n 5) at. 604; Gunnar Niels, Helen Jenkins and James Kavanagh, *Economics for Competition Lawyers* (2nd Ed, Oxford press publishing, 2016) 210-211.

87 Barak D. Richman and Steven W. Usselman 'Elhauge on Tying: Vindicated by History' (2014) 49(3) Tulsa Law Review 689.

88 Imperfect competition occurs for example when prices on the market are not set by demand and supply, there is an information asymmetry between buyers and sellers, barriers to enter are high, the accumulation of significant market power is possible.

89 Gunnar Niels, Helen Jenkins and James Kavanagh (2016) *supra* (n 86) at 210-211.

90 Michael D. Whinston, 'Tying, Foreclosure and Exclusion' (1990) 80(4) The American Economic Review 837.

91 Ibid, at 839-840.

92 Ibid, at 840, 846-855. For example, when the price valuations of the customers are heterogeneous, commitment to tying may no longer be profitable while tying in the absence of commitment to such strategy my in turn become profitable.

tying product market.[93] Where products A and B are complementary and market entry is characterized by network effects or significant costs, the monopolist in product market A has the incentive to tie the two products together to prevent future competition on both markets. The rationale is that by tying products A and B together the monopolist sacrifices certain profits in order to deny competitors sufficient scale in the tied product market which will prevent such competitors to ever enter the market of product A.[94] Similarly, the monopolist can use this strategy to reduce the profitability and thus the emergence of a product C, which would constitute a cheaper alternative to the A-B complementary products combination. By tying product A and B together, the producer of product C is deterred from entering the market it would otherwise monopolize in the absence of the tie.[95] The undesired effects of such strategies concern long-term dynamic efficiency, namely the exclusion of equally efficient competitors through the tying of perhaps outdated and obsolete products by a monopolist or incumbent. Similarly, Choi and Stefanidis show that in industries where R&D costs are high and investment is risky, an incumbent undertaking with monopoly market power in the markets of the complementary products A and B has the incentive to tie them. By doing so, any new entrants will equally be required to enter both markets as well, thus the strategy will drive up the entry costs significantly when both markets are associated with risky and intense innovation. By raising entry costs and the stakes for successful innovation, the monopolist is capable of deterring its competitors from investing in innovation and thus preventing them from entering either markets.[96]

4.3.2 Tying and bundling in two-sided markets

Although the aforementioned studies and models can be applied to cases concerning platforms to a certain extent, these studies were not developed in a manner that incorporates the two-or multi sided nature of platforms.[97] Therefore, the suitability of such corresponding economic models may not always be guaranteed in the case of platforms. Nonetheless, the theories of harm developed by these previous studies have been tested in more recent studies specifically focused on two-sided markets so as to determine

93 Dennis W. Carlton and Micheal Waldman,' The strategic use of tying to preserve and create market power in evolving industries' (2002) 33(2) RAND Journal of Economics 194.

94 Ibid, at 196-212.

95 Ibid, at 196-197, 212-215.

96 Jay P Choi and Christodoulos Stefanidis, 'Tying, Investment and the Dynamic Leverage Theory' (2001) 32(1) The RAND Journal of Economics 52. In their paper the authors also use the logic behind their model to explain how this could also apply to the Microsoft tying case that was ongoing at the time.

97 Frederico Etro and Cristina Caffarra,'On the economics of the Android case' (2017) 13(2-3) European Competition Journal 282, 290-292.

whether tying can be used to extract supra-competitive profits, foreclose competitors or deter market entry in such contexts.[98] These studies on two-sided markets have shown that under certain circumstances, tying can indeed also serve as an anti-competitive strategy with similar outcomes as in the case of single-sided markets.

The concern that tying could be used as a leveraging tool for achieving ultra-competitive profits has also been confirmed in the context of two-sided platforms. According to Amelio and Jullien, a monopolistic platform that is constrained from offering negative prices to customers on side A of the platform (that are extremely price sensitive) can use tying the of zero-priced goods or services in order to circumvent the pricing limitation and increase customer participation on that side of the platform. Based on the assumption that indirect network effects are positive, by increasing participation on side A, the platform can subsequently extract higher prices from the platform customers on side B of the platform that value such increased participation by the former customers on side A of the platform.[99]

The idea of this strategy is to solve the coordination problem of bringing and keeping the customers on all sides of the platform on board,[100] a dilemma that all platforms face in the course of their existence and must constantly overcome to remain viable.[101] The profitability of such tying strategy depends on the balance between the additional profits that can be extracted from the customers on side B and the cost of increased participation by the customers on side A of the platform. The model behind this theory of harm entails that multiple specific assumptions and strict conditions are met in the context of a monopolistic and duopolistic two-sided market.[102] Furthermore, the possibility to employ tying for the purpose of foreclosure has been shown to work in similar circumstances in a more recent study by Choi and Jeon.[103] Accordingly, it was shown that where the

98 See e.g. Andrea Amelio and Bruno Jullien, 'Tying and Freebies in Two-Sided Markets' (2012) 30(5) International Journal of Industrial Organization 436; Jay P Choi and Doh-Shin Jeon (2016) *supra* (n 59).

99 Andrea Amelio and Bruno Jullien, (2012) *supra* (n 98) at 436-437; In the case of Booking.com, the current set of booking services offered to consumers is of greater value than the initial version of Booking.com which included only the option of hotel room booking. By increasing the value offered to consumers Booking.com is able to better attract more consumer to the platform and allow it to charge higher commissions from hotels since the increases participation of consumers means Booking.com is a more valuable trading partners for such hotels.

100 Ibid.

101 Caillaud, B. and B. Jullien, 'Chicken & Egg: Competition Among Intermediation Service Providers. (2003) 34(2) RAND Journal of Economics 309; Mark Armstrong' Competition in two-sided market', (2006) 37(3) RAND Journal of Economics 668.

102 Andrea Amelio and Bruno Jullien (2012) *supra* (n 98) at 436-437.

103 Jay P Choi and Doh-Shin Jeon (2016) *supra* (n 59).

platform and its competitors are constrained from competing on negative prices for the tied good, tying not only helps extract additional profits from the other side of the platform, but may also deter entrance or foreclose competitors on the tied product market.[104]

When all platforms are equally constrained from offering negative prices, meaning the lowest price for participation on the platform is zero, tying allows the concerned undertaking to circumvent this constraint. By tying the two platform services or products for no added fee the concerned undertaking is able provide the customers on that customer side of the platform a better offer for the price of zero and compete away a (more efficient) competitor on the tied market that cannot offer such a deal. The effects and profitability of the tying strategies are, however, dependent on the degree of two-sidedness of the tying and tied product markets. Accordingly, when both tied and tying markets are two-sided, the tying strategy might be profitable whereas tying might not be profitable when the tying market is two-sided and the tied market is (almost) single sided.[105] Moreover, when there is no negative price constraint for the platform, the single monopoly profit theory can also apply in the case of platforms as in the case of single-sided undertakings.[106]

In light of the above, it can be argued that tying and bundling can pose similar anti-competitive concerns in both traditional single-sided market conditions as well as in the case of two- or multi sided platforms. The two-sided nature of platforms and their common use of zero-pricing does not appear to preclude the possibility of anti-competitive effects and thus cannot offer immunity from competition law liability contrary to what has often been claimed in the past.[107] The economic literature on tying in two-sided markets does in fact indicate that the opposite is true. It is precisely the combination of the two-sided character of platforms and industry-wide use of zero pricing which can make tying and bundling practices profitable and effective for extracting supra-competitive prices and eliminating competition. Admittedly, while this is a predominant combination of attributes in the case of online platforms, the above-mentioned theories of harm

104 Ibid, at 1-2.

105 Ibid, at 4. Tying a two-sided platform to another platform on the consumer side entails that such consumer participates on both platforms for free thus tying can potentially increase participation of such consumers on both platforms. However tying a two-sided platform to a single sided service or product that is positively priced for the same consumers may lead to a loss when sufficient consumers have a low valuation for the respective product or service. In such cases consumers may purchase the tied good from a competitor for a better price and skip on participation on the tying two-sided platform leading to losses on both fronts for the concerned undertaking.

106 Ibid, at 3.

107 David S Evans, 'The Antitrust Economics of Free' (2011) 7(1) Competition Policy International 78-81.

for two-sided markets are based on economic models that entail multiple assumptions and conditions, which may not always reflect the daily business reality of (online) platforms.[108] Therefore, the insights resulting from these models and theories of harm are by no means sufficient to advocate in favor of a more rigorous approach to tying and even less so for a *per se* approach when dealing with platforms. Instead, the insights stemming from economic literature provide the basis for the reason that tying and bundling in the case of platforms should be scrutinized with the same diligence as in cases concerning single-sided markets. Accordingly, inquiries into tying and bundling practices by (online) platforms should be absent of any *per se* type of presumption concerning their lawful or unlawful nature.[109]

Understanding that tying and bundling can be used for anti-competitive purposes in the case of two-sided markets is, however, only the first step in the long journey towards adequate enforcement in the case of online platforms. Applying the current legal framework to tying and bundling practices adopted by online platforms also requires understanding and correctly identifying their use. The economic literature on tying in two-sided markets is focused entirely on the effects of tying in a context where tying practices are a given fact or are presupposed to be easily identifiable. In practice, however, the existence of tying practices from a legal perspective cannot be simply assumed and is often disputed throughout the enforcement process in various manners.[110] This reality will not only persist but also become more intricate when dealing with online platforms where tying practices involve technical functionalities that are often seamlessly integrated with each other.[111] Applying the current framework of Art. 102 TFEU to the above-mentioned on-platform and cross-platform expansion strategies reveals the challenges involved in the enforcement process and the adaptions needed to make this process feasible and adequate for online platforms.

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108 For example Coursera has both freemium and premium membership options for consumers wishing to follow of the courses posted on the platform while Airbnb and Deliveroo have a shared cost business model where both sides of the platform pay for the services offered on the platform. Accordingly the pricing structure of platforms in practice may be different than the price structure envisaged by the economic literature on tying in two-sided markets.

109 Renato Nazzini, 'The Evolution of the Law and Policy on Tying: A European Perspective From Classic Leveraging to the Challenges of Online Platforms' (2016) 26 Journal of Transnational Law and Policy; King's College London Law School Research Paper No. 2018-04 < https://ssrn.com/abstract=3112557> accessed 17 June 2020.

110 See e.g. in the case of Microsoft the argument was that providing the media player together with the Windows operating system should not be treated as tying as these were not separate products nor was there any element of coercion since the media player was provided to consumers for free without any obligation to use it. See *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004, paraa. 404-405, 830.

111 Kalina S Staykova & Jan Damsgaard (2016) *supra* (n 60).

4.4 Tying and bundling under Article 102 TFEU

The abuse of dominance through tying and bundling practices is listed in Article 102 (d) TFEU. The application of this provision in practice has, however, led to quite a few debates as the approach of the Commission and EU Courts was considered too formalistic.[112] The early cases of *Hilti* and *Tetra Pak* concerning tying practices focused on establishing dominance with regard to the concerned undertaking, identifying the existence of two separate products offered jointly to customers in a manner which exhibited some element of coercion.[113] The potential foreclosure effect of tying and bundling practices was assumed to exist once these elements were proven.[114] Furthermore, the possibility to raise objective justifications for such strategies claiming the creation of various kinds of efficiencies proved to be more theoretical than practical, as these were categorically dismissed. Consequently, the Commission and EU courts were strongly criticized for adopting a *per se* formalistic approach to these types of abuses that ignored the pro-competitive and efficiency generating potential of tying and bundling.[115] This seemingly formalistic *per se* approach was abandoned in the Microsoft case where the Commission specifically treated the presence of foreclosure effect as one of the cumulative criteria for finding an abuse.[116] In the appeal procedure of Microsoft, the General Court confirmed this effects-based approach of the Commission,[117] which was at the time in the process of being fully incorporated into its policy papers.[118]

Following these developments, the legal test for finding an abuse based on the legal qualification of tying or bundling practices requires proof with regard to the following aspects: (i) the concerned undertaking must have a dominant position in the tying market or the market of one of the bundled

112 See e.g. Christian Ahlborn, David S. Evans and Jorge A. Padilla (2004) *supra* (n 85); David S. Evans, Jorge A. Padilla and Michel Slinger, 'A pragmatic approach to identifying and analyzing Legitimate Tying cases', in C. D. Ehlermann and I. Atanasiu (eds.) *European Competition Law Annual 2003: What is an Abuse of a Dominant Position?* (Hart Publishing, 2006) at 556-558.

113 *Eurofix –Bauco v. Hilti* (Case IV/30.787 and 31.488) Commission decision of 22 Dec. 1987 OJ 1988 L61/19, paras. 70-75; *Tetra Pak II* (Case IV/31043) Commission decision of 24 Jul. 1991, paras. 99-120, 143-151.

114 This approach was also noticed by EU courts and mentioned specifically by the GC in the Microsoft case, see Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 1009, 1035.

115 See e.g. Barry Nalebuff (2003) *supra* (n 71) at 16-20.

116 *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004, para. 794.

117 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 859-868, 1031-1035.

118 DG Competition discussion paper on the application of Article 82 of the Treaty to exclusionary abuses, Brussels, December 2005, para. 182-206; The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65), paras. 47-62.

products, (ii) the undertaking must be tying or bundling two separate products (iii) customers are coerced into obtaining the tied and tying products or the bundled products together (iv) the tie has a foreclosure effect and (v) there is no objective justification for the practice.[119] The test appears quite straightforward but when applied to the above mentioned on-platform and cross-platforms expansion strategies difficulties arise with respect to each of these steps due to the technical complexity of such strategies and the two (or multi) sided nature of online platforms.

4.4.1 Dominant position

In order for tying and bundling practices to fall under Art. 102 TFEU, the concerned undertaking must be dominant on the tying product market or on one of the bundled product markets.[120] Establishing dominance in such cases is no different than in any other abuse of dominance case and follows the process described in the Commission guidance on the definition of the relevant market.[121] Despite the existing experience of the Commission and EU courts with the definition of the relevant market, it is evident that this aspect of the legal analysis will be challenging in practice due to the two (or multi) sided nature of online platforms.[122] The difficulty with regard to this stage of the assessment is twofold.

First, one must decide with respect to which platform or interaction the proof of dominance is required. In the case of tying, dominance needs to be determined with regard to the tying platform or interaction, whereas as in the case of pure bundling, dominance can be established with regard to any of the platforms or interactions bundled. Therefore, when dealing with cross-platform expansions, establishing dominance would entail determining whether a specific platform is dominant. This was the situation in the Microsoft case as well as in the more recent Google Android

119 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 850-869; *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 741- 751; Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) at 440-450; David Bailey and Laura Elizabeth John (eds.), *Bellamy and Child: European Union Law of Competition*, 8th edn (OUP, 2018) at 948-951.

120 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 50.

121 Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] Official Journal C 372/5.

122 See e.g. Daniel Mandrescu (2018) *supra* (n 27); David S. Evans and Richard Schmalensee, (2007), *supra* (n 48) at 173-175.

case.[123] When dealing with on-platform expansions, establishing dominance requires establishing whether the platform possesses a dominant position with respect to one of in the interactions it facilitates. Although it was not a tying and bundling case strictly speaking, this can be seen in the recent Google Shopping case where separate relevant markets for Google's general search and Google's shopping search were defined.[124] Choosing the specific platform or interaction in each case depends furthermore on the nature of the customer leveraging relation between the concerned platforms or interactions in each case, namely whether such relation is reciprocal. If the leveraging across platforms or interactions is reciprocal, dominance can be assessed with regard to either interactions or platforms because such a relation may indicate the existence of (pure) bundling practices.

When the leveraging relation is not reciprocal, however, dominance will have to be determined with regard to the platform or interaction that triggers the element of leveraging as it may prove to constitute a form of tying. In either case, dominance would need to be established with regard to the customer group of the platform subjected to the leveraging strategy that may constitute abusive tying or bundling practices. Accordingly, dominance would need to be established with respect to the consumer group that is coerced into participating or sharing data on more than one platform or activating two or more functionalities on a platform. This approach can be seen in the Microsoft and Google Android cases where dominance was established from the perspective of the OEM's which were subject to the tying practices of Microsoft and Google.[125]

Second, once the platform or interaction with regard to which dominance must be established has been identified, the next step requires deciding

123 In the case of Microsoft, dominance was established with regard to its position on the market for operating systems and the tying was established with regard to the Windows Media Player. See *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004 paras. 403, 428-472, 800-813; In the case of Google, dominance was established with regard to its mobile operating system, general internet search services and app store while tying was established with regard to the Chrome web browser and the Google search app, see *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 439-727.

124 See *Google Search (Shopping)* (Case AT.39740) Commission decision of 27 Jun. 2017, paras. 154, 191- 250, 271-330.

125 In the case of Microsoft OEM's were wanted to install Windows OS on the PS's they produced had to also pre-install Windows Media Player and Internet Explorer, See *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004 paras. 302-314; Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, para. 870; *Microsoft (tying)* (Case COMP/C-3/39.530) Commission decision of 16 Dec. 2009, paras. 24-38. In the case of Google OEM's were interested in pre-installing the Google Play Store on the Android smartphones they produced were required to also pre-install the Google Search app and the Google Chrome app, See *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 752-992.

how to define the relevant market for such platform or interaction. In both on-platform and cross-platform scenarios the relevant market will need to be defined with respect to a two (or multi) sided market. Consequently, one must first decide how many markets must be defined with regard to such a platform or interaction.[126] After this matter is resolved a market power assessment for the purpose of establishing dominance can be undertaken. This latter problem concerning the market definition is, however, inherent in any instance where defining the relevant market is required in the case of platforms and therefore will not be addressed within the scope of this contribution.[127]

4.4.2 Separate products

The requirement of demonstrating that separate products have been tied or bundled is aimed to make a distinction between cases where the joint provision of multiple products is appropriate and thus welfare enhancing, and cases where such offers may be detrimental to competition.[128] Proving that the concerned products are distinct can be done based on the combination of direct and indirect evidence of independent demand for untied or unbundled offers.[129] According to the Commission's guidelines, customer demand constitutes the decisive element for establishing that products are distinct in tying and bundling cases. The proof of separate customer demand needs to be delivered with regard to the same level of the supply chain where the investigated tying or bundling practices are implemented.[130]

Products will be considered distinct if there is proof that in the absence of the tie, a substantial number of consumers would acquire the tying product without the tied product or one of the bundle products from the same supplier.[131] Such proof can be accompanied by direct evidence that, when given a choice, customers obtain the two products from different suppliers,

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126 For a general discussion on the definition of the relevant market in platform markets see Lapo Filistrucchi, Damien Geradin, Eric van Damme and Pauline Affeldt, 'Market Definition in Two-Sided Markets: Theory and Practice' (2014) 10(2) Journal of Competition Law & Economics 293; Sebastian Wismer and Arno Rasek, 'Market Definition in Multi-Sided Markets', OECD (2018) Rethinking Antitrust Tools for Multi-Sided Platforms, 57; Vikas Kathuria, 'Platform competition and market definition in the US Amex case: lessons for economics and law' (2019) 15(2-3) European Competition Journal 254. For an extensive discussion on this matter specifically in the case of online platforms see Daniel Mandrescu (2018) *supra* (n 27); Bundeskartellamt, Working Paper – The Market Power of Platforms and Networks, Ref. B6-113/15, June 2016

127 Ibid.

128 David Bailey and Laura Elizabeth John (eds.), *Bellamy and Child: European Union Law of Competition*, 8th edn (OUP, 2018) at 948-949.

129 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 51.

130 Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) at 442.

131 Ibid.

as well as by indirect evidence that various (competing) suppliers offer such products separately or produce solely the tied product or one or the bundle products.[132] Furthermore, the commercial usage and common practices can also be relevant for the purpose of this analysis depending on the circumstances of the case. This combination of evidentiary sources can be observed throughout the decision making practice of the Commission that has been confirmed by the EU courts in past tying and bundling cases.[133] In an ideal situation, the competition authority investigating the allegedly abusive practices is also capable of producing evidence indicating whether independent demand exists also for the tying product. Strictly speaking, such kind of evidence is not necessary according to current practice,[134]however, producing it would make the case much stronger.

Translating these settings to the previously discussed leveraging strategies of online platforms entails the following. When dealing with cross-platform leveraging, the distinct product test means that one must establish whether two (or more) interlinked platforms constitute separate products. Generally speaking, reaching the conclusion that interlinked platforms constitute separate products should not be any more difficult than what has been seen in the Microsoft cases which also involved platforms, namely the Media Player and web browser that were provided together with Windows OS. Going back to the previous examples of Uber and Uber Eats, EBay and PayPal, YouTube and Google+ it is quite evident that such platforms constitute separate products according to criteria of current practice. These can be considered different products, as there is no necessity for all these services to be offered together due to their nature or based on their commercial usage.[135] In fact, on handheld devices all of these platforms can only be used via separate applications.[136] Thus, there is some form of evidence from the commercial practice of the platforms themselves to support the finding that such platforms constitute separate products. Furthermore, almost every platform will have some close competitors offering similar services on a standalone basis.[137]

132 Ibid.

133 For a short overview see Robert O'Donghue and Jorge Padilla (2013) *supra* (n 5) at 616-623.

134 See Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 919-923.

135 Consider the link made by the account between Google Docs, YouTube, and Google Calendar.

136 However as it has been claimed by the Commission in its investigation into Google's practices in the context of Android OS, these separate applications are often pre-installed by the OEMs. Similar yet more complex constructions can be seen at LinkedIn and Facebook where desktop functionalities are separated for handheld devices.

137 E.g. YouTube competes with Vimeo, Google+ has Facebook as one of its main competitors, Uber competes with Lyft and Cabify with respect to transport services and Deliveroo and Foodora for food delivery services.

Perhaps one of the only cases where competing platform ecosystems can be seen is that of the major players in the search engine market that offer quite comparable interfaces in terms of components.[138] However, the mere fact that a handful companies are capable of offering extensive ecosystems consisting of multiple platforms and single-sided products, interlinked through a single user account, is not sufficient to consider such ecosystems as one product.[139] Quite the contrary, given the fact that such companies are often the dominant ones in their respective territorial markets indicates that the ability to offer such ecosystems is only possible for undertakings with significant market power.[140] Such circumstances in combination with a wide variety of standalone competitors indicating evidence of supply-side availability will likely prevent separate platforms from being considered as a single product for the foreseeable future.[141]

When dealing with on-platform leveraging, however, the distinct-products test will require determining whether the various matchmaking interactions facilitated by the platform constitute separate products. Strictly speaking, finding that two interactions are separate may occur if the concerned platform launched with a single interaction and then introduced a second one that is also offered by standalone platforms.[142] Reaching such a conclusion would be compatible with the current practice of tying and bundling cases in principle. The interactions will often serve different yet related purposes, which have been offered by the platform and its competitors on a stand-alone basis and thus the technical integration in such cases will not likely be indispensable.[143] Accordingly, until the joint supply of interactions becomes the common commercial practice of all or at least a significant number of non-dominant competitors of the concerned undertaking, such interactions could be considered to be separate products.[144] In practice, establishing the existence of separate products in such cases requires a balanced approach that evaluates existing market conditions in a forward-looking manner so as

138 In this respect Microsoft, Yandex, Google, Baidu and Tencent offer comparable functionalities with respect to search services, navigation maps, email, photo and video search as well as some social media functionalities presented primarily as one interface.

139 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 938-942; *Rio Tinto Alcan* (Case COMP/39230) Commission decision of 20 Dec. 2012, para. 64.

140 Ibid.

141 Ibid; see also *Case T-30/89 Hilti AG v Commission* [1991] ECLI:EU:T:1991:70, para. 67.

142 E.g. Booking.com launched with a room booking functionality and recently added a flight search functionality that is also offered on a stand-alone basis by Skyscanner.com.

143 Such a situation would be analogous to the findings in Microsoft where the Explorer web browser and Media Player were considered as complements to the Windows OS however they did not constitute a single product together.

144 *Rio Tinto Alcan* (Case COMP/39230) Commission decision of 20 Dec. 2012, para. 64.

not reach conclusions that quickly become outdated and may even hamper the evolution of products and services.[145]

4.4.3 Coercion

The offering of separate products by a dominant undertaking, if established, must also entail an element of coercion that limits customer choice and allows for the leveraging of market power from one product market to another.[146] In the absence of coercion there would be nothing preventing competitors from persuading the customers of the dominant undertaking to switch and thus engage in competition on the merits. Coercion is, however, a difficult concept to apply uniformly as it may manifest itself in multiple forms and degrees. The strictest form of coercion with regard to customer choice is in essence the explicit obligation to obtain the respective separate products jointly from the concerned undertaking. Such obligation can be imposed on the customer through contractual terms, technical means or a combination of the two.[147] This would evidently also be the case in circumstances where customers wishing to make use of one platform or a specific interaction on a platform can only do so if they make use of another platform or interaction provided by the concerned undertaking. Furthermore, the obligation imposing joint acquisition can also be replaced by pricing schemes, unfavorable contractual conditions and poor technical compatibility that may *de facto* eliminate any potential incentive competitors can offer customers to deviate from such joint acquisitions.[148] In the case of online platforms, this could be the case if buyer protection on EBay would apply only to transactions made with PayPal, the joint booking of flights and hotel rooms on Expedia would be free of any booking or cancellation costs, include free breakfast and a pick up service from the airport or Instagram only allowing users to share videos when signing in with a Facebook account.

Of course, in practice, when there is no clear obligation concerning the joint acquisition of the separate products identifying *de facto* coercion may entail more complex factual assessments based on the circumstances of each case

145 E.g. if the separate product criterion is applied too mechanically products like smartphones could be considered as a bundle of a GSM device with an mp3 player, a digital camera and a navigation system where this is clearly not the case in practice.

146 Jonathan Faull & Ali Nikpay (eds) *The EU Law of Competition* (3d ed., OUP 2014) at 444-445; Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 864, 945.

147 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* n.65, para. 48.

148 This is, for example, the case with regard to Nespresso which refused to disclose its designs to coffee cup producers as well waving its warranty for Nespresso machines in the case of consumers using coffee cups from other producers. For a discussion on this case see OECD report on Competition Issues in Aftermarkets - Note From France, 21-23 June 2017, DAF/COMP/WD(2017)42, pp. 7-11.

leading possibly to the finding of different kinds of abuses.[149] Beyond these extremely aggressive approaches, the leveraging strategies of undertakings will exhibit a declining degree of persuasion while attempting to achieve the same purpose, namely the joint acquisition of separate products. These latter strategies, which possibly lead to competitors exiting the market, may be nonetheless legal if they leave sufficient room for customer choice with regard to the possibility of obtaining the respective separate products from suppliers other than the concerned dominant undertaking.

As mentioned above, the success of online platform expansion strategies depends greatly on their ability to leverage their customer base from one product market to another. In order to avoid infringing competition law it can be assumed that such platforms will likely avoid leveraging tactics that impose strict contractual or technical obligations concerning the joint provision of separate interactions or platforms. Nonetheless, it is evident that leveraging will be attempted through more subtle means such as the creation of cross platform accounts and possibly various kinds of nudging techniques as previously discussed. When such seemingly subtle means have, however, *de facto* the same effect as strict obligations of joint provision such strategies can nonetheless be considered a form of tying or bundling in the sense of Art. 102 TFEU. Therefore, it is important to assess whether and how such alternative cross- and on-platform leveraging tactics may exhibit a sufficient degree of coercion so as to be qualified as a tying or bundling based on current practice.

The leveraging of an overlapping customer base across platforms essentially entails the creation of a common customer database that is shared by two or more platforms owned by the same entity as in the case of Google, Uber, KakaoTalk and Tencent. In practice, the realization of this common database means that the various platforms can only be accessed by users after creating an account that serves as a universal access pass. To the extent that such a common customer account serves solely as an access key, without creating and activating customer profiles across multiple platforms, such a strategy cannot be said to strictly coerce customers in obtaining multiple services or products from the concerned undertaking. This is also the case if the undertaking nudges such customers to use all of its platforms through various means such as messages, advertisements, first use bonuses and others. The borderline between leveraging through persuasion and leveraging through coercion may, however, be very easy to cross and quite difficult to identify.

149 For example, multi-product rebates or mixed bundling cases which display pricing schemes that make the separate acquisition of the bundled or tied products or services financially irrational for consumers and predatory or quasi-predatory with respect to competitors. See the Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) paras. 59-61.

If nudging strategies go so far as to trigger an unsolicited functioning of a separate platform this could also be considered a form of coercion rather than persuasion. This would be the case for example if customers filling in a search query on Google+ were redirected to YouTube for video search results for their query once they hit the search button. Furthermore, if the creation of a user account on one platform by a customer results in the creation of parallel user profiles on other platforms on which the same customer does not wish to participate, such an act may be regarded as coercive. This would occur, for example, if creating a Facebook account automatically creates an Instagram profile for the same customer. In this scenario the customer is essentially forced to participate, at least passively, on one or more additional platforms in which he or she had no interest. Considering such practices as coercive in the sense of Art. 102 TFEU would be in line with the findings in Microsoft, where the GC concluded that proof of coercion does not require identifying an obligation for the joint *use* of the products offered by the concerned undertaking.[150]

The simple fact that customers are prevented from obtaining the distinct products offered by the concerned undertaking separately is sufficient, even if such products are provided without cost and customers are able to use the products of competitors.[151] Moreover, where automatically generated profiles have access to the data generated by the customer on other platforms, the coercive nature of this practice is further amplified as the customer is then *de facto* also forced into sharing his or hers data across such separate platforms.[152] For example, this would be the case if customers of Uber would have their ride history analyzed in the context of their automatically generated UberEats user profile even if they have never used the UberEats platform. Therefore, the test for coercion with regard to cross-platform leveraging tactics would be whether customers can participate solely on one platform without being forced into unsolicited services or (active or passive) participation on a separate platform. When such a significant coercive effect is not observed, the leveraging strategies of the platform would not qualify as tying or bundling in the sense of Art. 102 TFEU.

150 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras. 970-971.

151 Ibid, para. 969.

152 See more on this in Daniele Condorelli and Jorge Padilla, ' Harnessing platform envelopment in the digital world' (2020) 16(2) Journal of Competition Law & Economics 143; In this regard the existence of an informed consent from users to take such action will be required based on Art. 5 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) OJ L 119/1 ('GDPR'). Obtaining such consent, however, will not stand in the way of qualifying such practices as tying or bundling if consumers must accept such conditions in order to make use of either services as this is in fact the essence of coercion and restriction of customer choice the such case law is intended to prevent.

Nevertheless, such practices could be caught under the general category of abusive leveraging practices. This may occur when the persuasion strategies and nudging implemented by the concerned platform trigger the same behavior from its customers as in the case of explicit obligations of joint provision despite the fact that such customers are free to participate (actively and/ or passively) on a single platform. The permissibility of such practices will then depend on the reasons behind such systematic joint participation behavior by the platform customers and their foreclosure effect. For example, joint participation that is a result of constant innovation and product improvement may be far less problematic than when joint participation is achieved through deception or the manipulation of consumer biases or inertia, despite that fact that both scenarios may entail competitors exiting the market.[153]

In the case of on-platform leveraging techniques a similar assessment could be made with regard to the relation among the various interactions on the platform. On-platform leveraging techniques boil down to various types of nudging which may be combined with financial incentives for the simultaneous use of two or more interactions on the same platform. Establishing whether nudging can be considered coercive in such cases depends therefore on whether the nudging *de facto* forces customers into participating in an interaction they did not solicit willingly as this is what the case law on tying and bundling intends to prevent. Therefore, nudges that take suggestions to use additional interaction a step further by triggering or initiating such additional separate interactions could be considered coercive. This could occur, for example, if Booking.com used the location data of the customer in combination with its hotel search query to display customers unsolicited search results for airplane tickets for the same period. By doing so, Booking.com would essentially be providing customers with another service on top of the one they seek, namely their vertical price comparison service for airplane tickets. If this additional interaction is triggered automatically, the customer is *de facto* coerced into obtaining it.[154] Therefore, considering such practices as coercive for the purpose of an Art. 102 TFEU case analysis is equally compatible with the findings of the GC in *Microsoft* since coercion does not need to go so far as to compel the *use* of separate products.[155] By contrast, nudges that remind, recommend, suggest or encourage customers to use two or more interactions on the same platform in the form of pop up notices, messages and ads would not be perceived as coercive for the purpose of finding tying or bundling practices. For example

153 Due to the fact that these scenarios, when they occur on platforms of across platforms, are highly casuistic requiring extensive research into the impact of nudging on consumer behavior they are not dealt with further in the scope of this contribution.

154 Similar conditions could arise when consumers must first view such search results before being able to finalize their transaction with respect to the booking of their hotel room.

155 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, paras.970-971.

Booking.com could display messages or advertisements about its flight booking functionality to customers that are in the process of booking hotel rooms for their upcoming trip. Similarly, Booking.com could also send emails to customers that have booked hotel rooms via the platform telling them they can also look for their flight there. Accordingly, nudging strategies that trigger or initiate an additional functionality should be considered *de facto* coercive in the sense of Art. 102 TFEU whereas nudging strategies that are intended to acquaint customer with a functionality should not.

Nonetheless, as mentioned above, even such latter strategies may be considered a form abusive market power leveraging under Art. 102 TFEU when they have the same effect of guarantying joint participation by consumers as a result of questionable strategies while producing a foreclosure effect on the market.

Once it can be concluded that the platform cross-platform or on-platform leveraging tactics are coercive because they force the platform customers to participate (actively or passively) on more that one interaction or platform such practices may qualify as either tying or bundling in the sense of Art. 102 TFEU. Following such a finding, the next step in the legal analysis requires establishing whether such practices can have a foreclosure effect on competition in order to determine their permissibility.

4.4.4 Foreclosure effect

Establishing whether the leveraging strategy of the concerned platform can create a foreclosure effect is practically the focal point of the entire analysis. In the absence of such an effect, it cannot be said that the potentially abusive practice prevents equally efficient competitors to compete on the merits with the concerted undertaking and therefore cannot be considered abusive.[156] In this regard it should be noted that evidence of foreclosure requires more than the mere evidence of disadvantaged rivals.[157] Evidence of foreclosure also requires proof that the practices of the concerned undertaking interfere with the structure of competition on the market, which is likely to result in some form of consumer harm.[158] Future tying and bundling cases concerning online platforms will undoubtedly have to follow such an effects-based approach,[159] which is essentially required by the objective of Art. 102 TFEU. The circumstances based on which the Commission was inclined to undertake an extensive effects assessment rather than assume the anti-competitive foreclosure effect in the Microsoft

156 Robert O'Donghue and Jorge Padilla (2013) *supra* (n 5) at. 623-624.
157 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 19.
158 Case C-209/10 *Post Danmark v Konkurrencerådet* [2012] ECLI:EU:C:2012:172, para. 24.
159 Case C-413/14P *Intel v Commission* [2017] ECLI:EU:C:2017:63.

case will predominantly be present in cases concerning online platforms.[160] Namely, new unexplored markets exhibiting network effects and positive feedback loops.[161]

The assessment of anti-competitive foreclosure in the case of tying and bundling cases relies primarily on the criteria set for assessing such effect with regard to all other exclusionary abuses.[162] The criteria include (i) the strength of dominance; (ii) market conditions for expansion and barriers to entry including economies of scale and network effects; (iii) the market position of competitors; (iv) the position of customers and input suppliers; (v) direct evidence of foreclosure; (vi) direct evidence of any exclusionary strategy.[163] More specific criteria, mentioned especially with regard to tying and bundling cases, refer to the nature (technical or contractual) and duration of the tying or bundling practices and the market power that the concerned undertaking has with respect to its entire product portfolio.[164] When dealing with online platforms, however, it is important that their two (or multi) sided nature is also taken into account throughout the foreclosure effects analysis in addition the general criteria used to assess (potential) foreclosure effects in Art. 102 TFEU cases.

In this regard, economic literature on tying and bundling practices by platforms indicates that the functional relation between the tied or bundled products determines the potential foreclosure effect of such strategies to a great extent. Accordingly, the foreclosure effect of such practices will vary from case to case depending on whether the functional relationship between the platforms or interactions is one of complements, weak substitutes or unrelated products.[165] The functional relationship between the platforms or interactions in each case indicates to a great extent the degree of customer overlap, which in turn also influences the outcome of the leveraging exercise.[166] When tying or bundling complements the degree of customer overlap on one side of the platform will be significant as complements are inherently designed and marketed for essentially one and the same customer group. The greater the degree of customer overlap among products the greater the likelihood of success by the concerned undertaking,[167] meaning a greater foreclosure effect in practice.

160 *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004, para. 841.
161 Ibid.
162 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 52.
163 Ibid, para. 20.
164 Ibid, para. 53-54.
165 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne, (2011) *supra* (n 8) at 1279-1282.
166 Ibid, at 1280.
167 Ibid.

Tying or bundling of weak substitutes will likely entail situations where customer overlap is less pronounced than in the case of complements and thus normally requires the presence of great economies of scope opportunities in order to foreclose competitors or prevent entry.[168] In this regard, it should be noted that this limitation is based on the assumption that the tied or bundled products are positively priced. In the case of online platforms that, however, may not be the case as the bundling or tying will often occur with respect to the non-paying customer group of the platform, namely end consumers. Therefore, in practice, undertakings may not be disciplined by such considerations and tying or bundling practices involving weak substitutes may prove to possess a greater anti-competitive foreclosure potential than believed. In such situations the data aggregation advantage resulting from tying and bundling practices could give rise to a potential foreclosure effect that is obscure and easily underestimated in practice as demonstrated by Facebook's acquisition of WhatsApp and Instagram.[169]

Finally, the potential foreclosure effect of tying and bundling unrelated products also depends on the extent of customer overlap and economies of scope.[170] Accordingly, in such cases a platform that has achieved a dominant position with respect to a particular interaction or platform can leverage its customer base with relative ease to another platform which is functionally unrelated. The customer overlap then requires that the users of the newly added and unrelated interaction are also (mostly) users of the initial interaction or platform of the concerned undertaking. This would have been the case if, for example, Microsoft had tied LinkedIn to Windows or Office following its acquisition of the platform.[171] Due to the anti-competitive potential of such practices, however, Microsoft had to submit commitments specifically stating it will not pursue any kind of tying or bundling strategies in order to obtain the approval of the acquisition from the Commission.[172] In this regard, it is important that such a relation is understood correctly as tying or bundling for expansion purposes will occur under

168 Ibid.

169 See *Facebook/ WhatsApp* (Case COMP/M.7217) Commission decision of 3 Oct. 2010, para. 53-61, 101-107, 153-157. The Commission considered Facebook and WhatsApp to be no more than weak substitutes and any concerns raised with regard to the concentration of data sources and possible integration between the two platforms were dismissed; See also CMA decision on the Acquisition of Instagram by Facebook ME/5525/12 of 14 Aug. 2012. In this case the two platforms were not considered competitors and any anti-competitive concern was dismissed by the CMA or considered unlikely by third parties. Yet a few years later, the once underestimated or unforeseen concerns have led to discussions about reversing these acquisitions which indicates that future data related to foreclosure risks may easily be missed.

170 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne, (2011) *supra* (n 8) at 1282.

171 *Microsoft/LinkedIn* (Case COMP/M.8124) Commission decision of 6 Dec. 2016para. 301-321, 328-352.

172 Ibid, para. 409- 436.

circumstances that pose less obvious anti-competitive concerns. Whereas the merger between Microsoft and LinkedIn entailed two (likely) dominant platforms,[173] the use of tying and bundling strategies following expansion will entail binding a dominant platform to a non-dominant one that just entered the market. Therefore, the risk exists that the foreclosure effect of the tying and bundling practices will be observed only at a stage that may be too late for efficient enforcement, particularly if the market has tipped in favor of the concerned platform.

In addition to the functional relationship between the tied or bundled interactions or platforms, economic literature on tying an bundling in two sided markets indicates that the foreclosure effect of such practice also depends on the extent of which these interactions or platforms are indeed two-sided. Accordingly, when the markets of both tied and tying interactions or platform are two-sided the tying strategy might be more profitable than a situation where the tying market is two-sided and the tied market is (almost) single sided.[174] The reason behind this is that in the first scenario, the indirect network effects at play are mutually reinforcing. For example, tying EBay with PayPal increases the value of both platforms to buyers and sellers. Tying makes EBay safer for purchases meaning it attracts more buyers that in turn attract more sellers that lead to an increased number of transactions that general revenue for both EBay and PayPal. Furthermore, tying also makes PayPal more valuable since it helps create a significant customer base, which in turn makes it an attractive payment system for merchants (and consumers) to use outside the EBay marketplace thus generating extra revenues. By contrast, in the second scenario where the tied product is (almost) single sided this mutual reinforcement of indirect network effects may not be present and risks customer loss. For example, if Google would require consumers who use Google Docs to also acquire a paid subscription to Google Drive, such tying may not increase the usage of both products. Using Google Drive may improve the Google Docs functionality and thus popularity; the same cannot be said the other way around. Therefore, in cases where consumers do not have a clear preference for Google Docs they may prefer to acquire their online storage from Dropbox for example and avoid or abandon Google Docs altogether due to the tie. In this situation, Google does not only lose potential Google Drive users but also Google Docs users, which in turn makes Google Docs less interesting for third parties to adopt (e.g. PC producers, website developers) and vice versa.

173 Ibid, para. 283- 294. The market shares of both platforms reached 80-90% in their respective relevant markets.

174 Jay P Choi and Doh-Shin Jeon (2016) *supra* (n 59) at 4.

Therefore, assessing the foreclosure potential of tying or bundling practices will require assessing the intensity of the network effects at play with regard to each of the tied or bundled interactions or platforms separately to determine to what extent these are truly two-sided.[175] Furthermore the analysis will also require looking into the impact on the (indirect) network effects on or across platforms following the tying or bundling tactics to determine the potential of the leveraging of market power. Moreover, according to economic literature it should also be observed whether the competitors of the concerned undertaking in the tied market are capable of offering negative prices for the tied interaction or platform.[176] If negative prices are possible, competitors offering negative prices may still be able to compete for customers interested only in the tied interaction or platform thus limiting the foreclosure potential of the tying (or bundling) practices by the concerned undertaking.

Finally, when addressing the matter of foreclosure in the case of online platforms it is also imperative to consider to what extent similar competing offers of the tied or bundled products (or services) could be provided by competitors. Accordingly, the analysis should provide an evaluation of whether the competition on the market is moving from separate product or service competition to competition among bundles. In the case of online platforms such patterns of competition among bundles are likely to occur for the reasons mentioned above and observing such developments throughout the market requires assessing potential expansion from undertakings active on separate markets. For example, if Expedia were to be investigated for tying or bundling of its hotel booking function with its flight booking function, assessing whether the market is evolving or can evolve into competition among bundles would require looking at expansion possibilities for platforms offering only the hotel booking function as well as platforms offering only the flight booking function. If such potential market developments are observed than the foreclosure effect may over time be replaced and /or counterbalanced by intense competition on the merits among undertakings providing bundled offers that would reduce the need for competition law intervention and thus the finding of an abusive tying or bundling practice.

Despite the importance of the assessment criteria concerning foreclosure, the current practice of the EU Courts and Commission shows varying traces of such considerations when dealing with multisided platforms. In both Microsoft and the more recent Google Android the tying and bundling prac-

175 Lapo Filistrucchi, Damien Geradin and Eric van Damme, 'Identifying Two-Sided Markets', (2013) 36(1) World Competition 33.

176 See Jay P Choi and Doh-Shin Jeon (2016) *supra* (n 59) at 4. Negative prices refer to a situation where platform customers are offered (monetary) compensation or other kind of financial benefits in return for their use of the platform.

tices concerned complements, which pose the highest competitive concern given the great degree of customer overlap between the tied or bundled products.[177] This characteristic was identified in both cases and implicitly linked to the foreclosure potential of the prohibited practices in each case. In Microsoft, a link was made between the customer overlap of Windows OS and Windows Media Player and its implications for adoption of WMP by content creators following the bundling practices.[178] Similar findings were also made in Google Android where the market share of Android OS was used as a proxy for the market coverage that the Google Search App, Play Store and Chrome were guaranteed to have following Google's tying practices.[179] Accordingly, it can be said to some extent that the operational link and the customer overlap between the products tied or bundled in each case was addressed when assessing foreclosure.

By contrast, when it comes to taking account of the multi-sided nature of the tied or bundled products current practice paints quite a different picture. In Microsoft, the multi-sided nature of the products involved was not explicitly mentioned, however, references were made to the positive feedback loops that were triggered by the bundling practices as well as the indirect network effects at play. Such references can be said to be an implicit inclusion of the multi-sided nature of the products involved when assessing foreclosure.[180] By contrast, in Google Android, the multisided-sided nature of Android OS and the indirect network effects at play were only identified in the assessment of Google's dominance.[181] When assessing the foreclosure effect of Google's tying practices the Commission explicitly refused addressing the matter of network effects.[182] Such a refusal is problematic as the Google's products vary in their degree of multi-sidedness thus displaying different settings of indirect network effects.[183] By choosing not to look into such matters the Commission diminished the completeness of the analysis and thus risked reaching false conclusions, which may be penalized in the context of judicial review even if the outcome of the deci-

177 In Microsoft Media Player and Internet Explorer were bundled with Windows OS. In the case of Google Android, Chrome and the Google Search app were tied to the Play Store.

178 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, para. 984. Since Windows OS had over 90% market share of PC users the bundling provided WMP a similar market exposure making it far more interesting for content developers than Microsoft's competitors.

179 *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018 paras. 783, 791, 902.

180 *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004 paras. 8614-863, 873, 878-895; Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, para. 1061-1062 ; *Microsoft (tying)* (Case COMP/C-3/39.530) decision of 16 December 2009, paras. 55-56.

181 *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 464, 469, 624, 629, 635, 638, 721.

182 Ibid, paras. 776, 899.

183 Android OS and Google Play Store are multi-sided whereas Google Chrome and Google Search app far less so.

sion proves to be correct. Not taking into account indirect network effects when these are present and can impact the legal analysis in a given case has been found as a ground for annulment by the CJEU.[184] Furthermore, given the communalities between the two cases this deviation from the approach in Microsoft creates also legal uncertainty for future tying and bundling cases concerning platforms, which are already nearing the stage of investigation.[185]

In light of the above it would appear that the complexity brought about by multi-sided platforms are not always properly accounted for by current practice. The effect of the tying or bundling of the concerned platform on its various products, as displayed by the Google Android decision, does not appear to receive the attention it deserves as an important part of the effects analysis required in Art. 102 TFEU cases.[186] The main focus in this recent case seems to be whether competitors can make similar or at least competitive offers to the ones made by the dominant undertaking, namely Google. Such an approach is not only legally problematic but also logically flawed since assessing the capability of competitors to match the offers of the dominant platform only makes sense once the effects of such practices are evaluated in their respective economic and legal context. Therefore, a legally sound foreclosure analysis in such cases would require taking the assessment made in Microsoft a step further. Such an adjustment would entail starting off with a specific identification of the single or multi-sided nature of the tied or bundled products in each case followed by an assessment of the effect of the tying or bundling practices on the concerned platform in light of the indirect network effects at play. Following this assessment the ability of competitors to match the practices of the dominant undertaking can be evaluated as common in tying and bundling cases.

Once this stage of the legal analysis has been reached and a potential or actual foreclosure effect has been established, the burden of proof shifts to the concerned undertaking.[187] At this final stage the undertaking may be able to rely on the derogation possibility of Art. 102 TFEU in light of the efficiencies its practices can generate. The success of such arguments will

184 See by analogy Case C-67/13 P *CB v Commission* [2014] ECLI:EU:C:2014:2204, paras. 74, 87.

185 See e.g. Commission Press release, ' Commission opens investigation into Apple's App Store rules' (16 Jun. 2020) at: <https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1073> accessed 10 Jul 2020; BBC New technology, ' Slack makes EU antitrust claim against Microsoft over Teams' (22 Jul. 2020, BBC News) at: < https://www.bbc.com/news/technology-53503710> accessed 25 Jul. 2020.

186 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, para. 867.

187 Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289, para. 688, 1144; The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 64) paras. 28-30.

depend, however, not only on the aggregate effect of the generated efficiencies but also on the manner in which such efficiencies manifest and how these are assessed.

4.4.5 Objective justification and efficiency arguments

Current practice generally recognizes three forms of objective justification under Art. 102 TFEU that differ in terms of substance and standard of proof.[188] First, the concerned undertaking may prove that its actions are intended to defend its legitimate commercial interests in a manner that is compatible with competition on the merits despite the observed exclusionary effect.[189] Second, the concerned undertaking may try to prove that its practices were objectively necessary due to factors and circumstances that are external to the undertaking.[190] Finally, the concerned undertaking can rely on efficiency arguments in order to defend its practices and avoid eventual fines.[191] Regardless of the approach taken, a successful outcome requires that the practices of the concerned undertaking are proportionate with regard to the objectives pursued and potential negative effect on competition.[192]

In the case of online platforms, their two- or multi sided nature as well as their inherent need of expansion are very important for the analysis of such potential justification grounds. In this regard when considering the introduction of joint supply of services or products by online platforms it is necessary to consider the possibility that such practices are a manifestation of legitimate commercial practices. The inevitability of expansion in the case of online platforms, as previously discussed, means that most if not all platforms will, at some point in time, provide a form of joint supply

188 Robert O'Donghue and Jorge Padilla (2013) *supra* (n 5) at. 283; Tjarda van der Vijver, 'Article 102 TFEU: How to Claim the Application of objective justification in the case of prima facie dominance abuses?' (2013) 4(2) Journal of Competition law and Practice 121, 128-130.

189 See e.g. Case C-209/10 *Post Denmark v Konkurrenceradet* [2012] ECLI:EU:C:2012:172, paras. 20-22. Not all evidence of exclusion are considered proof of anti-competitive foreclosure as competition on the merits may often entail less efficient competitors exiting the market.

190 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* n.65, para. 29; See e.g. Case T-30/89 *Hilti AG v Commission* [1991] ECLI:EU:T:1991:70, paras. 33, 108-109. In this case Hilti argued that its tying actions were needed to protect the health and safety of consumers.

191 Case T-228/97 *Irish Sugar v Commission* [1999] ECLI:EU:T:1999:246, para. 189 ; Case C-95/04 P *British Airways v Commission* [2007] ECLI:EU:C:2007:166, para. 86.

192 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* n.65, para. 28; Case 27/76, *United Brands Company and United Brands Continentaal BV v Commission* [1978] ECLI:EU:C:1978:22, paras. 191-198; BBI/ Boosy & Hawkes- Interim measures, OJ 1987 L 286/36.

of services or products. Accordingly, to the extent that such joint provision is not coercively restricting customer choice (contractually or technically), such practices should be seen as (at least *prima facie*) legitimate business practices. This is particularly so when comparable joint provision and expansion trends (actual or potential) can be observed by competitors or potential competitors of the concerned platform. In the context of competition between platforms such practices allow platforms to defend their commercial interests against direct competitors as well as eventual 'envelopment attacks' from (dominant) platforms active on related markets.[193] Where strict coercion is linked to the joint provision of services or products by online platforms, such a (*prima facie*) presumption of legitimate business practices may only arise where similar practices are implemented by all or most of the competitors of the concerned undertaking. Such a situation can occur in practice when competition in the effected markets has evolved from single products or services to bundled offers as in the case of TV, internet and phone line package deals. In the absence of a comparable market development, strict (contractual or technical) coercion is unlikely to be considered proportionate for protecting the commercial interest of the concerned online platform.[194] A comparable approach would be in line with the commercial reality of online platforms and their natural growth patterns.

In cases where the concerned platform cannot rely on the argument that it merely protects its commercial interests by engaging in competition on the merits it must provide other arguments in order to avoid penalties. In the case of tying and bundling practices the main focus of the Commission with regard to potential justifications is on the efficiencies generated by the concerned undertaking.[195] This is hardly surprising as economic literature has identified an array of efficiencies that may be achieved through the use of tying and bundling.[196] To some extent, this approach could be considered an advantage with regard to online platforms. The reduction of search and transaction costs, often mentioned as some of the key efficiencies behind tying and bundling practices,[197] will often be enhanced by such undertakings due to their multisided intermediary nature.[198] The entire rationale behind platforms is essentially to facilitate an interaction between two or

193 Thomas Eisenmann, Geoffrey Parker and Marshall van Alstyne (2011), *supra* (n 8); Andrei Hagiu (2007), *supra* (n 42)

194 Supra (n 191).

195 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 62.

196 Robert O'Donghue and Jorge Padilla, (2013) *supra* n. 5, at 599-602; Gunnar Niels, Helen Jenkins and James Kavanagh, *Economics for Competition Lawyers* (2016) *supra* n 86 at 205-208.

197 Ibid; Barry Nalebuff (2003), *supra* (n 71).

198 Andrei Hagiu, (2007) *supra* (n 42).

more separate customer groups in a more efficient way than these parties could do on their own. The added value of the platform for its customer groups almost always includes, in practice, some reduction of search and transaction costs.[199] This inherent efficiency advantage that online platforms possess may, however, not increase the success rate of efficiencies-based justifications due to the manner in which such efficiencies are assessed under the current legal framework.

Following the clarification by the CJEU that efficiencies arguments can serve as an objective justification, the Commission formulated the legal test for such a justification under Art. 102 TFEU in an almost identical manner as 101 (3) TFEU.[200] The rationale of the Commission that justifications under Art. 102 should be assessed in the same manner as in the case of Art. 101(3) also obtained the approval of the CJEU in *Post Denmark*.[201] This common approach is desirable from a legal certainty and consistency perspective, as both articles can apply simultaneously in a given case.[202] However, in the case of platforms this approach is problematic because it entails that the scope of the balancing test between efficiencies and anti-competitive effects is limited to the relevant market where the anti-competitive practice occurs.[203] In the case of online platforms this may erroneously limit the scope of the analysis that, due to their two- or multi sided nature, may require the definition of multiple relevant markets.[204] Accordingly, it is possible that the abuse of dominance occurs in a separate market than the one in which the efficiencies are generated.[205] For example, in the case of tying PayPal to EBay, the tie may foreclose competition on the market for online payment solutions with respect to online retailers, while at the same time reduce transaction costs for consumers in the online retail market for

199 Ibid; Bertin Martens (2016) *supra* (n 16) at 10-21.

200 The Commission's Guidance paper on Article 102 enforcement priorities, *supra* n.16, para. 30. Accordingly, the criteria that must be met for such a justification are: (i) the efficiencies have been or are likely to result from the conduct of the dominant undertaking; (ii) the conduct is indispensable to the realization of such efficiencies; (iii) the efficiencies outweigh any negative impact on competition and consumer welfare in the affected markets; (iv) the conduct does not eliminate effective competition, by removing all or most existing sources of actual or potential competition.

201 Case C-209/10 *Post Denmark v Konkurrenceradet* [2012] ECLI:EU:C:2012:172, para. 42.

202 Case C-395/96 P *Compagnie Maritime Belge Transports and Others v Commission* [2000] ECLI:EU:C:2000:132, para. 33-34; Case 85/76 *Hoffmann-La Roche & Co. AG v Commission of the European Communities* [1979] ECLI:EU:C:1979:36 para. 116; Case T-51/89 *Tetra Pak Rausing SA v Commission of the European Communities* [1990] ECLI:EU:T:1990:41, pp. 25-29.

203 Commission Guidelines on the Application of Art. 101(3) of the Treaty, (2004) OJ C101/08, para 43.

204 Daniel Mandrescu, (2018) *supra* (n 27) at 455-459.

205 Ibid; Daniel Mandrescu, Applying EU Competition Law to Online Platforms: The Road Ahead – Part 2, (2017) Vol. 38(9) ECLR 410, 420–422; Alfonso Lamadrid de Pablo, The Double Duality of Two-Sided Markets, (2015) 64(5) Comp. Law 1, 9-15.

consumer goods. When a comparable situation arises, evidence of efficiencies must be provided firstly in the market where the alleged infringement occurred according to both the Commission and the CJEU.[206]

Efficiencies in separate related markets can only serve to complement the efficiencies identified in the market where the anti-competitive practices took place.[207] Evidence of efficiencies in a related market alone will not suffice for the purpose of justifying anti-competitive practices.[208] Accordingly, when assessing allegedly abusive tying or bundling practices, it is important that efficiencies are primarily identified with regard to the market where the potential anti-competitive foreclosure effect manifests. The efficiencies do not necessarily have to be greater than the anti-competitive effect in order for the concerned undertaking to successfully rely on this derogation. Efficiencies identified in the relevant market where the infringement occurred can be complemented by out-of- market efficiencies in related markets for this purpose. However, in order for out-of-market efficiencies to be considered, efficiencies in the relevant market where the infringement too place must first be demonstrated.[209] Therefore, it is crucial that the efficiencies generated by online platforms and possibly enhanced by tying or bundling practices are framed in the context of the legal analysis in a manner that adequately incorporates their two (or multi) sided nature. Failing to do so will unjustly reduce the likelihood that the concerned undertaking will be able to successfully rely on the efficiencies derogation, due to a formalistic deficiency in the current framework. This outcome is not only undesired with respect to the online platform undertakings but may also have a detrimental effect of consumer welfare as it deprives them of the possibility of obtaining better products or services that in turn may also lead to intensified competition for such consumers.

Unfortunately, current practice on platforms under Art. 102 TFEU has not addressed the abovementioned procedural hurdles. In both Microsoft and Google Android the efficiencies arguments raised with regard to the benefits that consumers enjoy following the tying and bundling practices were dismissed.[210] The assessment of benefits and anti-competitive consequences across markets in both cases does not appear, however, to look at

206 See The Commission's Guidance paper on Article 102 enforcement priorities, *supra* (n 65) para. 30; Commission Guidelines on the Application of Art. 101(3) of the Treaty, (2004) OJ C101/08, para 43; Case C-382/12P *MasterCard Inc and Others v Commission* [2014] ECLI:EU:C:2014:2201, paras. 236-243.

207 Case C-382/12P *MasterCard Inc and Others v Commission* [2014] ECLI:EU:C:2014:2201, para. 242.

208 Ibid, at para. 243.

209 Ibid.

210 *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004, paras. 956-970; Case T-201/04 *Microsoft v Commission* ECLI:EU:T:2007:289, paras. 1156-1161; *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 993-1008;

the manner in which such related markets are connected. The assessment of the claimed efficiencies by Microsoft seems to go in the desired direction for multisided platforms as the implications of the bundling practices were considered with regard to multiple markets.[211] Nevertheless the indirect network effect between such markets resulting from the fact that the bundled products were complements were not thoroughly considered. In Google Android, the assessment of efficiencies was more limited and focused mainly on consumers and OEM's rather than on all parties interlinked by the Android ecosystem influenced by such actions.[212]

Therefore, it can be said that the assessment of efficiencies across various markets has been performed to some degree in previous cases. Nevertheless, current practice still needs to adjust the manner in which such multimarket analyses are being brought together in order to fit in with the legal and economic reality of multisided (online) platforms.

4.5 Conclusion and final remarks

The discussion and analysis in this chapter addressed the third sub-question of this research, namely: *To what extent is the current framework of non-price related abuses suitable for distinguishing between legitimate expansions and anti-competitive leveraging of market power by online platforms?*

In this chapter, the specific framework of tying and bundling abuses was selected as a test case for non-price related abuses. This selection was made due to the fact that such type of practices are more likely to arise in the context of anti-competitive expansions than other non-price related abuses due to their effectiveness with respect to market power leveraging. In this respect, the discussion in this chapter showed that the current framework on tying and bundling cases might prove to be a useful tool in filtering out anti-competitive expansion strategies implemented by online platforms.

The leveraging of market power across markets and various customer groups will likely be an integral aspect of most growth strategies of online platforms. As previously discussed such strategies can take multiple forms, which may bring the business practices of online platforms within the ambit of Art. 102 TFEU when these undertakings possess a dominant position on the market. In this regard, it would appear that the current framework concerning tying and bundling practices is quite suitable for dealing with cases that raise competition concerns provided that the technical functionalities and the two- or multi sided nature of online platforms are taken into account.

211 *Microsoft* (Case COMP/C-3/37.792) Commission decision of 24 Mar. 2004, paras. 956-970.
212 *Google Android* (Case AT.40099) Commission decision of 17 Jul. 2018, paras. 993-1008.

From a technical perspective, it is important that the factual practice of tying or bundling is thoroughly investigated as the joint provision of products or services by online platforms may be rather obscure. Accordingly, it is critical that a tying or bundling analysis correctly identifies the existence of two or more separate products jointly offered by the concerned undertaking. Such a finding may be manageable in cases concerning the tying or bundling of separate platforms as demand and supply side evidence of substitution will often be available. When the investigated practices concern, however, the tying or bundling of two or more matching interactions on one platform, establishing the existence of separate products jointly offered may prove to be rather challenging. Nonetheless, even in such cases evidence of demand and supply side substitution for the individual interactions may often be available. However, in this later scenario the finding of separate products should be done based a forward looking as platforms are very likely to evolve and expand throughout the course of their existence.

In addition to identifying the separate products jointly offered by the concerned platform undertaking it is important that the matter of coercion correctly assessed. Accordingly, when looking into the leveraging strategies employed the concerned platform in the context of its expansion strategy it is crucial to evaluate to what extent such strategies restrict customer choice. Strict contractual and/ or technical obligations concerning the joint provision of the platforms' services imposed on customers are no different than the tying practices employed outside the context of online platforms and thus will very likely bring the practices within the ambit of Art. 102 TFEU based on previous case law. When such strict obligations are not present, establishing the existence of coercion requires determining whether the platform customers are able to participate on a single platform or interaction without being obliged to participate, either actively or passively, on a separate interaction or platform. For example can users have an Uber Eats account without having an Uber account and vice versa; or can consumers book their hotel room on Expedia without getting unsolicited search results for flights for the time of their stay. If customers (often end consumers) have no choice but to comply with such automatic joint participation then one may consider the leveraging strategies of the concerned platform sufficiently coercive to qualify as tying or bundling practices in the sense of Art. 102 TFEU. Where such coercion is not observed in the business practices of the concerned platform the joint provision of its services should in principle not be seen as problematic but rather as a legitimate business practices- namely those of expansion and persuasion. Nonetheless, even such practices may be considered a form of abusive market power leveraging under Art. 102 TFEU when they have the same effect of guarantying joint participation by consumers as a result of questionable strategies such as deception or the manipulation of consumer biases or inertia while producing a foreclosure effect on the market.

With regard to the two -or multi sided nature of platforms, economic literature has shown that there is no reason to address tying and bundling practices by platforms in a more strict or more lenient manner than in the case of non-platform undertakings as both types may give rise to similar anti-competitive effects. Furthermore, the common use of zero pricing with respect to consumers should not be seen as a reason for non-intervention considering that economic literature shows that the use of zero pricing may in fact be indicative of a situation where anti-competitive tying and bundling practices occur. Consequently, taking such two -or multi sided nature into account allows for a better understanding of the potential anti-competitive effects of the business practices of online platforms in practice. Accordingly, in the assessment of the (potential) foreclosure effects of the tying or bundling practices it is imperative that the assessment looks into whether the tied or bundled interactions or platforms are two-sided as well and if so to what extent as the degree of two-sides of the products or services in each case may determine the foreclosure potential of the tying or bundling practice. Furthermore, the functional relation between the tied or bundled interactions or platforms must also be accounted for this purpose. Finally, the ability of competitors to compete with the concerned undertaking based on negative prices and / or similar multi-product offers should be included in the foreclosure assessment as such possibilities, if used by competitors, may significantly undermine the profitability of the tying and bundling strategy and its (potential) foreclosure effects.

Finally when dealing with the possibility of the concerned platform to defend its business practices, correctly distinguishing between the anti-competitive practices and lawful joint offerings by online platforms cannot be overrated as every platform at some point in time will seek to expand the number of interactions it offers its customers. Although all platforms will seek to leverage their customer bases across the various markets they interconnect, not all leveraging exercises will entail coercive anti-competitive tying and bundling practices. When evidence of strict coercion limiting customer choice is absent the joint provision of services or products by online platforms should in principle be considered as legitimate business practices. When strict or *de facto* joint provision obligations (in either technical or contractual form) are observed, such practices may also at times be considered legitimate business practices when implemented by the majority of competitors of the concerned undertaking. In such situations implementing such business practices is a legitimate form of competition on the merits where the dominant undertaking should be allowed to protect its business interest against competitors and against 'envelopment attacks' by potential competitors. Furthermore, even when potentially abusive tying and bundling practices are indeed identified it is instrumental that their efficiency-generating potential within the context of two- (or multi) sided markets is currently evaluated. As platforms are inherently efficiency-generating entities, an adequate application of the current competition

law framework cannot allow for an evaluation that does not take this characteristic into account. Therefore, it is of utmost importance that future cases concerning online platforms, where tying or bundling are identified, observe the efficiencies generated by such practices on the market where these practices occur as well in the market(s) that are directly related (i.e. the other sides of the platform). In this regard it is imperative that the efficiencies generated are taken into account as whole in light of the indirect network effect at play on or between online platforms and their customer groups. Such an analysis would allow for a truer evaluation of the positive and negative effects caused by such practices when implemented by platforms, which is currently at risk due to the manner in which efficiencies are appraised with respect to the relevant market.