TYING AND TWO-SIDED DIGITAL PLATFORMS

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1. The Aim of the Paper

The aim of this paper is to analyze to application of the Tying provision of Article 102 TFEU to two-sided digital platforms.

Article 102 cases require detailed analysis. In digital industries additional complexity is created by the fact that we are dealing with a *"two-sided"* or *"multi-sided*" market. [2]

The last three decades have witnessed a significant growth in high-tech, often internet based media and communication "network industries", such as video games, computers, social networking or e-commerce shopping malls.

These industries are often organized around physical or virtual platforms that enable distinct groups of agents to interact with one another. *Digital platforms* function as intermediaries economic actors and users. For example:

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[2] In an OECD study following characterization is given to two-sided markets: " Firms operating in two-sided markets are more aptly called ―two-sided platforms‖ because of their differences with firms that operate in one-sided markets. A two-sided platform is characterized by three elements. The first element is that there are *two distinct groups of consumers who need each other* in some way and who rely on the platform to intermediate transactions between them. A two-sided platform provides goods or services simultaneously to these two groups. The second element is the *existence of indirect externalities across groups of consumers*. That means that the value that a customer on one side realizes from the platform increases with the number of customers on the other side. For example, a search platform is more valuable to advertisers if it is more likely that it will reach a larger number of potential buyers. At the same time, it is more valuable to potential buyers if the platform has more advertisers because that makes it more likely that a buyer will see a relevant advertisement. The third element is *non-neutrality of the price structure*, i.e., the price structure of the platform affects the level of transactions. The price structure is the way prices are distributed between consumers on the two sides of the market. The platform can affect the volume of transactions by charging more to one side of the market and reducing the price paid by the other side by an equal amount. Since the price structure matters, the platform must design it so as to induce both sides to join the platform." (emphasis added). See OECD Policy Roundtables 2009, Two-Sided Markets, p.11, http://www.oecd.org/daf/competition/44445730.pdf.

- *Online search platforms* such as Google or Bing provide an online search platform between web users and advertisers;

- *PC operating systems* such as Microsoft provides a software platform that allows transactions between independent software vendors and users;

- *Video game platforms*, such as Sony PlayStation or Nintendo, provide software tools that enable publishers develop games and a device on which consumers can play those games;

- *Smartphone platforms* such as Android or iPhone provide an interface between users of the device and content providers such as application developers;

- *Online shoppers* such as Amazon connect customers willing to buy books online and publishers as well as all suppliers and buyers or all kind of other commodities. eBay auction site allows us to buy and sell (used) products online.

- *Social media platforms* such as Facebook provide an interface for social networking and LinkedIn for business related networking. The latter is also a job board and recruiting tool. Spotify allows us to listen to our favorite music "for free" or, actually, in exchange for agreeing to listen to some advertisements as well.[3]

Digital platforms are normally organized around physical or virtual platforms that enable distinct groups of agents to interact with one another. Often one side of the market is subsidized with the income from the other side of the market. Many of the digital platforms operate by attracting eyeballs with (in case of social networks self-generate) content and by selling access to those eyeballs and/or information gathered to advertisers.

The concept of multi-sided markets is not new. Consider, for instance, a medieval market place connecting customers with producers, e.g. farmers and citizens. Note also credit card companies operating between banks, merchants and consumers.

[3] As these examples clearly show there are different kinds of digital platforms. Many definitions of digital platforms have been tried. For the purposes of this article we can adopt Shelanski's definition and characterize …"digital platforms as products or services through which end users and a wide variety of complementary products, services, or information ("applications") can interact. Platforms therefore include devices (e.g., phones and tablets), software (e.g., operating systems and browsers), and services (e.g.,search engines, social networks, and e-commerce sites). The common thread… is that the platform provides a gateway between consumers and many diverse applications well beyond the specific product or service that constitutes the platform itself. Platforms serve to expand and aggregate functionality and to enhance consumers' access to the aggregated applications. In addition, they serve as"enablers" of innovation by providing common interfaces through which entrepreneurs can connect their complementary products to critical masses of consumers." See Howard A. Shelanski, Information, Innovation, and Competition Policy for the Internet. University of Pennsylvania Law Review [Vol. 161] 2013 p. 1663 – 1703, p. 1665.1666.

What constitutes an *evolution* here is the central place digital media platforms play in the so-called "new economy" markets, in particular in the software, communication and media industries. An increasing number of modern businesses belonging to these sectors are two or multisided platforms as a result of technological changes that have drastically lowered the costs and increased the benefits of connecting diverse customer groups on a single platform.[4]

It is submitted that the "multi-sidedness" of the products and services *requires a certain level of tying* by its nature that may make a traditional tying analysis lacking. On the other hand these kinds of markets are also *apt to monopolizing due to the importance of installed base as well as direct and indirect network effects*. In such situations tying practices can effectively foreclose the market. The article aims to provide some rules of thumb in what kind of situations intervention is likely to be necessary.

2. Two-sided platforms in digital industries

From a business literature point of view such businesses are nowadays often referred to as "two-sided" or "multi-sided platforms".[5] Multi-sided platforms aim to create value by bringing two or more different types of economic agents together and facilitating interactions between them that, so the theory goes, "make all agents better off".[6] These platforms play critical roles in many economically important industries including, for instance, games and game consoles, PC and smartphone operating systems, credit cards, or social media platforms.[7]

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[4] Digital platforms and Internet markets in general are often both R&D intensive and fast moving. While innovation is at least to some degree relevant any industry, for many digital platforms R&D is a central input of production. For instance, in handset industry there is no clear difference between R&D and production as most of the R&D brought to markets within two years. R&D process and the production process can be seen almost as the same thing for many products and services related to the digital platforms.

[5] It appears that in the literature the terms "two-sided platforms" and "multi-sided platforms" are used more or less synonymously. The same applies to terms "two-sided markets" and "multi-sided markets".See e.g. Evans, David S., Platform Economics: Essays on Multi-Sided Businesses (2011) s. 2; Evans – Schmalensee (2013), The Antitrust Analysis of Multi-Sided Platform Businesses, Roger Blair and Daniel Sokol, eds., Oxford Handbook on International Antitrust Economics, Oxford University Press, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2185373

[6] See, for instance, Evans - Schmalensee (2013) p. 2.

[7] Multi-sided platforms are normally organized around physical or virtual platforms that enable distinct groups of agents to interact with one another. Often one side of the market is subsidized with the income from the other side of the market. Many of the digital platforms operate by attracting eyeballs with (in case of social networks self-generated) content and by selling access to those eyeballs and/or information gathered to advertisers. The concept of multi-sided markets is not new. Consider, for instance, a medieval market place connecting customers with producers, e.g. farmers and citizens. Note also credit card companies operating between banks, merchants and consumers. What constitutes an evolution here is the central place digital media platforms play in the so-called "new economy" markets, in particular in the software, communication and media industries. An

The owners of multi-sided platforms must determine the optimal pricing structure – i.e., how best to allocate the costs of the platform in order to attract as many customers as possible on each side of the platform. They may for instance choose to finance the platform by exclusively charging one side of the platform (and thereby subsidize the other side or sides of the platform).

It must be borne in mind that in practice, *cross-subsidization* within a platform like search is relatively common and may be perfectly legitimate. In two-sided markets, pricing below production cost on one side of the market may be profitable and efficient for competitive firms both in the short term and in the long term. For instance, in search, the costs incurred in attracting users (i.e., developing search) are cross-subsidized with the income derived from search advertising. This cross-subsidization from one side of the platform to the other, in practice, can benefit both sides of the platform.

For instance in search advertising, Google or Bing are attracting consumers with a "free" search engine on the search market, information is collected about consumers' habits, behavior, likes and dislikes and that information is sold to the advertisers on the search advertising market. In other words, when a consumer is using a search engine she is at the same time a "consumer" and a "trade asset" although she might not be fully aware of the second aspect when conducting the search. If this data collection, analysis, compilation and leasing to data users (advertisers) did not take place, the two-sided services a whole would not gain attraction[8] and that valuable context-based *user data*, the *gold and platinum of the information society*, could not be utilized in full. In less flashy terms, customer information is a critical asset in two-sided digital platforms because digital platforms generally have much greater access than traditional businesses to a broad range of information about their consumers, and digital platforms are better placed to process and use that data for a variety of purposes. This detailed information on online-behavior is used to affect the demand of customers with tailor-made offers and, even more importantly, it has become a commodity that is sold to a high price to advertisers and other user groups that can use that information in

increasing number of modern businesses belonging to these sectors are two or multi-sided platforms as a result of technological changes that have drastically lowered the costs and increased the benefits of connecting diverse customer groups on a single platform. While these platforms can create efficiency benefits, they can also lead to significant competition law problems that necessitate and have led to antitrust enforcement, as is elaborated below.

[8] For instance, if Google or Bing out of sudden started charging consumers using the search machine, consumers would most likely switch to another search engine.

their own business. As a result of all this, in a two-sided digital platform each participant group's behavior indirectly affects the other participant groups' behavior ("network effects") and together they contribute to the overall success of a platform like search creating value. On the other hand, a referral to the two-sided nature of the market does not mean that all practices relating to functioning of the platform are legal, in particular when we are dealing with a dominant company.

While the basic business logic, as such, is understandable and quite legitimate, there may still be antitrust violations relating to for instance search manipulation, degrading of competitor's ranking on the search results or illegal ties and exclusivity arrangements that prevent switching of the provider, or other predatory practices. Digital platforms can also become entrenched if due to having provided information to a certain player switching costs are created and newcomers may find it hard to enter the market without some sort of access to that kind of information. The owner of a dominant digital platform can channel most traffic to its own network at the cost of competitors and use both offensive and defensive leveraging to defend the quasi-monopoly position and to spread it top new areas. In particular, tying and bundling as well as various exclusivity arrangements can be used to achieve this. Also predatory pricing may become a problem, but care has to be taken about what to infer from prices on one side of the platform.[9]

Typically two sided platforms, especially digital platforms, display *substantial economies of scale* arising from large fixed costs in developing and maintaining a platform and relatively low marginal costs in serving both sets of customers. Where substantial economies of scale exist platforms with more customers on one side are more valuable to customers on the other side and become more valuable as the demand from each side in growing. In a digital platform unit costs often fall as demand grows. This creates a natural advantage for first-movers, which combined with economies of scale, means that competition may turn a race for the market. Moreover it is worth noting that multi-sided digital platforms can tip easily. Buyers will tend to prefer (all other things equal) the platform that offers access to the most

[9] The issue is whether a given pricing structure can affect market structure, and specifically whether low pricing on one side of a market can prevent entry into both sides. This is unlikely to be a feasible exclusion strategy where firms are entirely symmetric. In such a situation, if one firm can gain incremental revenues on one side of a market when it wins extra business on the other side, and prices accordingly, then the same opportunities and pricing incentives will apply to its competitors. However, if we assume competitors of the dominant platform have limited ability to turn extra business on one side of the market into incremental revenues on the other. Such firms could find it hard to compete against a very asymmetric pricing structure, and therefore may be excluded from both sides of the market. See e.g. Fletcher, Predatory Pricing in Two-Sided Platforms: A Brief Comment. Competition Policy International, Vol. 3, Number 1 (2008).

sellers, and sellers will tend to prefer the platform that offers access to the most buyers. Such network effects can tip the market towards being served by just one or two platforms. There is a risk that the asymmetric pricing structure described above could further increase the likelihood of such tipping occurring. In this context, successful market foreclosure resulting from exclusionary conduct of the dominant player can have serious anti-competitive effects with little hope that the market will self-correct within a reasonable period.

The main learning of the literature on two-sided markets seems to be that *we need to understand the pricing logic and contractual practices and look into both sides of the platform.* In cases involving two-sided platforms, one needs to consider how conduct on one side of the market affects the other side of the market. While in digital markets the multi-sidedness of the market can explain pricing behavior, it can also accelerate the tipping effect and make it much more difficult, if not impossible, to challenge the dominant player. Successfully foreclosing a competitor on one side of a market can also prevent that firm from succeeding on the other side, and thereby deter platform entry. This is because success normally requires the ability to challenge the incumbent on both sides of the market. The result may be a durable quasi-monopoly with even significant consumer harm. The practical difficulty lies in trying to understand when a case is just about normal legitimate pricing behavior in a multi-sided market and when there may be circumstances at hand that may be regarded as abuse by a dominant company in attempt to eliminate competition.

3. Tying

Article 102 (d) of the TFEU expressly prohibits practices of a dominant company where "making the conclusion of contracts subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts". This abuse is commonly referred to as tying[10]. Under Article 102 (2) d) "tying" is defined as "making the conclusion of contracts

[10] There is a vast literature on tying and bundling. For a variety of views, see, e.g., Erik Hovenkamp & Herbert Hovenkamp, Tying Arrangements and Antitrust Harm, 52 ARIZ. L. REV. 925 (2010); Einer Elhauge, Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory, 123 HARV. L. REV. 397 (2009); Daniel A. Crane, Mixed Bundling, Profit Sacrifice and Consumer Welfare, 55 EMORY L.J. 423, 429 (2006); David S. Evans & A. Jorge Padilla, Designing Antitrust Rules for Assessing Unilateral Practices: A Neo-Chicago Approach, 72 U. CHI. L. REV. 73 (2005); Barry Nalebuff, Exclusionary Bundling, 50 ANTITRUST BULL. 321 (2005); David S. Evans & Michael Salinger, Why Do Firms Bundle and Tie? Evidence from Competitive Markets and Implications for Tying Law, 22 YALE J. REG. 37 (2005); Christian Ahlborn, David S. Evans & A. Jorge Padilla, The Antitrust Economics of Tying: A Farewell to Per Se Illegality, 49 Antitrust Bulletin 287 (2004); Dennis W. Carlton & Michael Waldman, The Strategic Use of Tying to Preserve and

subject to acceptance by the other parties of supplementary obligations which, by their nature or according to commercial usage, have no connection with the subject of such contracts." Tying one product into the sale of another can be considered abuse too, being restrictive of consumer choice and depriving competitors of outlets Tying was one of the key elements in *Microsoft v. Commission*.[11] According to the existing case-law relating to traditional tying cases, for instance in *Hilti* and *Tetra Pak II*, it has been assumed the tying of a specific product and a dominant product has, by its nature, a foreclosure effect. Tying is often connected to a refusal to deal with the aim of leveraging market power from one already dominated market to another. For instance, a refusal to supply a product that is essential for all businesses attempting to compete can constitute an abuse.

3.1 Different types of tying

Generally speaking, tying can be characterized as a practice where a supplier of one product, the tying product, is requiring the buyer to buy a second product, the tied product. In this case it is important to note that tying may take various forms:

a) **Contractual tying** may be the result of a contractual stipulation. For instance in the Hilti case[12] Hilti required users of its nail guns to and nail cardridges to purchase nails exclusively from it.
b) **Refusal to supply**: the effect of a tie may be achieved where a dominant undertaking refuses to supply the tying products or services unless the customer purchases the tied product or service[13].
c) **Withdrawal or withholding a benefit**: a dominant supplier may achieve the effect of a tie by withdrawing or withholding a benefit, for instance a rebate, a provision, a

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Create Market Power in Evolving ndustries, 33 RAND. J. ECON. 194 (2002); Keith N. Hylton & Michael Salinger, Tying Law and Policy: A Decision-Theoretic Approach, 69 Antitrust Law Review 469 (2001); Michael D. Whinston, Tying, Foreclosure, and Exclusion, 80 American Economic Review 837 (1990); Michael D. Whinston, "Tying, Foreclosure, and Exclusion", (1990) 80 American Economic Review 837;

[11] Case T-201/04 Microsoft v Commission, at paragraph 868. See, to that effect, Commission Decision 88/138/EEC of 22 December 1987 relating to a proceeding under Article 86 of the EEC Treaty (IV/30.787 and 31.488 - Eurofix-Bauco v. Hilti) (OJ L 65, 11.3.1988, p. 19), upheld in Case T-30/89, Hilti v Commission [1991] ECR II-1439, itself confirmed by the Court of Justice in Case-53/92 P Hilti v Commission [1994] ECR I-667. See also Commission Decision 92/163/EEC of 24 July 1991 relating to a proceeding pursuant to Article 86 of the EEC Treaty (IV/31043 - Tetra Pak II) (OJ L 72, 18.3.1992, p. 1), upheld in Case T-83/91 Tetra Pak v Commission [1994] ECR II-755, itself confirmed by the Court of Justice in Case C-333/94 P Tetra Pak v Commission [1996] ECR I-5951.

[12] Eurofix-Bauco v. Hilti (OJ L 65, 11.3.1988, p. 19), upheld in Case T-30/89, Hilti v Commission [1991] ECR II-1439, and Case-53/92 P Hilti v Commission [1994] ECR I-667.

[13] See e.g. Hilti or Télémarketing, Case 311/84 CBEM v CLT and IPB [1985] ECR 3261.

guarantee or attestation of technical conformity, unless a customer or contract partner uses suppliers' components as opposed to those of a third party.[14]

d) **Technical tying** occurs when where the tied product is physically integrated into the tying product so that it is impossible to take the product without the other. This was the situation in the Microsoft cases.[15]

e) **Bundling** is closely related to the idea of tying. It refers to a situation in which two products are sold as a single package at a single price. Here the difference can be made between pure bundling, where it is only possible to buy the two products together, and mixed bundling, where the two products are sold separately but when the customer purchases them together a discount is granted as compared to the price that is charged if they were purchased separately.[16]

f) **Tying as part of a broader predatory offence** occurs for instance, when a dominant company combines a raising rivals' cost strategy with a predatory pricing campaign. Here the dominant company is simultaneously raising rivals costs and degrading competitors' sales margins, which can form a particularly effective foreclosure strategy. This happened, for instance, in the case Tetra Pak II[17].

This list shows that in fact, tying can occur in many different forms. This is true also in this case. Rather than "putting labels" to a certain practice and trying to resolve the case solely by its "legal classification", it is important to have a consistent theory of harm that explains the

[14] See e.g. Novo Nordisk, XXVIth Report on Competition Policy (1996) pp. 142-143.
[15] E.g. case T-201/04.
[16] This was the situation as regards Microsoft both in the Media Player and Internet Browser cases. Both these cases are discussed in detail below.
[17] In Tetra Pak II Tetra Pak had demanded that customers to whom it supplied equipment used for the packaging of liquid or semi-liquid food products also purchase from it the cartons that were required for manufacturing the liquid-packages. The Commission found that it is not usual to tie the products in question to each other and no technological considerations can be found for it either. The Court of First Instance confirmed the Commission's finding about the separate markets and about Tetra Pak being guilty not only of tying but also of predatory pricing to eliminate competition. It is also noteworthy in the Court's judgment that although there may exist a natural connection between the products or they would appear together in commercial usage, their tied selling still may, depending on the context, imply an abuse of dominant position. It appears that the courts were analyzing Tetra Pak's practices as one continuum of abuses. See Tetra Pak II (OJ 1992 L 72/1); Case T-83/91, Tetra Pak International v Commission, [1994] ECR II-755; Case C-333/94 P, Tetra Pak International v Commission, ([1996] ECR, p. I-5951. Also the Intel case is of interest here because it shows that there is an increased focus on how predatory strategies of incumbent companies may work out. Although Intel was a rebates case, the European Commission applied a test of pricing below average avoidable costs, however, concentrating the analysis on how competition on the market can actually develop. In order to find this out, the Commission looked at the "contestable share of the market", i.e. that part of the market that in Commission's opinion was genuinely open to competition, and not simply at the market as a whole. The Commission concluded that Intel's main competitor AMD could not realistically attack the whole market but only part of it. Hence the exclusionary effect of Intel's rebate scheme was analyzed on the basis on whether AMD could match Intel's prices on the segment where it could compete. The Commission concluded that the rebate scheme had an exclusionary effect. See Commission Decision of 13 may 2009, COMP/C-37.990-Intel), OJ 227, 22.9.2009, p. 13-17.

potential harm to competition, to market structure and ultimately to consumers, whether they are end users or industrial customers.

4. Tying cases in two-sided markets

4.1 General points

We see tying practices everywhere in the economy. The literature is filled with all kind of examples ranging from shoes and shoelaces to all kind of bundled offerings. Without significant market power tying can be regarded as either pro-competitive or benign business strategy. However dominant companies may use it as an exclusionary strategy. First, a firm that is dominant in the market for the tying product may seek to extend its market power into the market for the tied product. Since consumers must obtain the tying product from the dominant firm, the firm can expand its dominance by tying the purchase of the two goods together.[18] If the firm ties a complementary product to its monopoly product, customers can only buy the monopoly product if they also purchase the tied product. As a result, customers are less willing to purchase a separate (redundant) tied product from an independent supplier, foreclosing competition in the otherwise competitive market for the complementary product.

Second, there may be circumstances where tying protects dominance in the tying product market.[19] When the tying monopolist expects that successful tied product-makers are likely to evolve into tying product-makers in the future, it has incentives to foreclose rivals in the tied product markets to prevent or reduce competition in its tying market.[20]

Two sided markets offer an interesting point of discussion. While *some sort of tying* is *normal or even a condition sine qua non in two-sided markets because otherwise it might be even impossible to monetize the business operations on the subsidized side of the market*, in case of market *dominance the monopoly explanation may trump over explanations relating to*

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[18] See e.g. Einer Elhauge and Damien Geradin, Global Antitrust Law and Economics (2nd Edition 2011), at p. 562 et seq.

[19] See, e.g., R. Cooper Feldman, Defensive Leveraging Strategy in Antitrust, 87 GEO. L. J., 2079 (1999).

[20] It is well known that in the US Microsoft case, the Department of Justice (DoJ) argued that Microsoft tied Windows to Internet Explorer not to reap profit in the browser market, but to protect its dominant position in the operating system market. It was alleged that Microsoft used this strategy in light of the threat that might emerge from a significant browser competitor, which could become an alternative operating system. Timothy Bresnahan, Network Effects and Microsoft, SIEPR Discussion Paper No. 00-51, August 2001, available at http://www-siepr.stanford.edu/papers/pdf/00-51.pdf

the two-sided business logic. At the outset it seems that if a product is offered for free, surely the price for its needs to be collected on the other side of the two-sided market. This is indeed the normal situation but there are exceptions to this situation. The higher the market power of the company that is utilizing tying as a business strategy, the more likely it becomes that consumer harm might emerge. Harm may occur even if online users are not asked to pay directly for the tying product or the tied product. A provider of free online services may have an incentive to extend its dominance in the provision of some services (the tying services) to other services (the tied services) in order to improve its capacity to monetize the services it provides on the paying side of the platform, for instance advertising.[21] A digital platform operator may provide service to one set of users without a direct charge, choosing instead to profit from fees charged to others. For example, it may find that it can increase its advertising revenue by controlling a greater share of online services. Also reputational effects may play a role. If tying makes the success of a dominant firm's tied product more likely, and the success of others' offerings less likely, tying can change adoption expectations. This is a particularly important factor in two-sided markets where users choose services in light of beliefs about what others will choose.[22]

Like discussed in the introductory part, due to direct and indirect network effects two-sided digital markets are often dominated by one player ("winner takes it all"). Now then, as an "installed base" is important tying can be used to both defend that position and to channel even more traffic to the dominant digital platform. "

Another characteristic of two-sided digital markets is that the company running the digital platform must not only attract consumers, but also *application developers*, who need to develop applications that are compatible with the platform (operating system). This triangular relationship is key element of *platform competition*, because the number of (high class) developers attracted to the platform in combination with the network effects creates a virtuous (vicious) circle: the more successful applications for a given platform are being developed, the more consumers are tipped towards that platform. The more consumers choose a given product, say a PC running windows or a smartphone running android, the more developers start developing products compatible with that operating system. If say 90 % of the developer's market is covered by writing the software for just one (or two) operating

[21] Jean-Charles Rochet and Jean Tirole, Platform Competition in Two-Sided Markets, 1(4), JJournal of the European Economic Association (2003).
[22] Ibid.

systems, it might no longer make economic sense for the developer for writing software for a second (or third) operating system, because the incremental new revenues will not cover the incremental cost and opportunity cost serving a smaller platform aside the dominant-one.[23] Thus an *installed base* consists not only of customers but also of the large developer community (typically thousands or tens of thousands developers) attracted to the platform. Once an installed base has been created, the slogan "Ubiquity beats quality" may even be sometimes true but there might also to be a positive correlation between the high market share and the "positive feedback loop". This also means that when the first market entrant is able to maintain its pioneer position for a period long enough to attract both consumers and developers, he will find himself in a very comfortable position to defend the market dominance vis-à-vis later market entrants. Furthermore, the feedback mechanism thus created, causes larger networks to grow even bigger and smaller networks to shrink and eventually disappear (*tipping effect*).[24]

As a result, *high entry barriers* for new market entrants may be created which is apt at creating *durable dominance*. Not only are consumers not likely to switch to an operating system that is not compatible with the range of applications already available for their first operating system, software developers are not likely to develop products for an operating system that is not widely spread amongst consumers. And even if consumers and developers were willing to give up the multitude of applications and the consumer-network already available in order to use a technologically superior operating system, the switch to a new operating system would involve considerable side costs that could not be borne by smaller developers and consumers. The only way to compete with a company that enjoys all these network advantages i.e. a *paradigmatic change*: a whole new product. Competition becomes "Schumpeterian", for the market and not in the market.[25] While dynamic competition is great

[23] New software tools like HTML5 can, as such, make it easier for software developers to write simultaneously code for several competing platforms. However, all relevant factors like issues relating to IPR and contractual practices needs to be analyzed to reach a more firm position on this.

[24] On the other hand, it is clear that the presence of network, feedback, or lock-in effects does not necessarily lead to market dominance. There is no automatism in business life and certainly no automatism as regards two-sided digital platforms. Network effects can be shared among rivals if the rival platforms interconnect with each other or in some other way share the source of the positive network externality. Feedback effects can exist for multiple platforms simultaneously. Sometimes technology and pricing can help to overcome switching costs. See e.g. Shelanski (2013) p. 1684. Nevertheless, of these effects can contribute to a durable platform's market dominance and, under the right conditions lead to a durable quasi-monopoly of given digital platform. Lacking interconnectivity and/or interoperability between platforms can contribute to the tipping of the market towards one quasi-monopoly.

[25] See e.g. Gregory J. Werden, Network Effects and Conditions of Entry: Lessons from the Microsoft Case, 69 Antitrust L.J. 87 (2001). Shelanski mentions that competition is thus more sequential than simultaneous. Shelansky p. 1669. While this is generally true when dynamic (technology) competition is compared to price

for consumers, Article 102 TFEU and corresponding provisions are needed to keep the markets open and to ensure that the "Schumpeterian monopoly" indeed remains only temporary and is sooner or later replaced by an innovative newcomer that, according to the storyline[26], is bound to replace the first monopolist.

4.2 Is there a legal difference between "traditional" tying cases and "new economy" tying cases?

In terms of EU competition law the seminal Microsoft Media Player case is still the most important precedent when we look at the legal rules on tying under Article 102 TFEU.[27] In its decision in 2004 the Commission[28] stated, inter alia, that Microsoft abused its dominant position by bundling its Windows Media Player (WMP) to the dominant PC operating systems market by bundling to the dominant.

In its decision, the Commission recognized that it was not dealing with a classical tying case' and took a more effects-based approach in this case than it did in Hilti and Tetra Pak II. In its decision the Commission departed from the form-based approach established by previous case law and took, as it emphasized in its press releases, a 'rule of reason' approach to tying. While in classical tying cases, the Commission and the Courts considered the foreclosure effect for competing vendors to be demonstrated by the bundling of a separate product with the dominant product by taking into account all the relevant market characteristics. The Commission emphasized the impact of indirect network effects on the maintenance of an effective competitive structure. To show that even a rule of reason analysis warranted an intervention, the Commission argued that the tying of Windows Media Player afforded Microsoft unmatched ubiquity on client PCs worldwide, which would lead to a situation in which content providers and software developers increasingly use the Windows Media Player

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competition, the durability of a dominant position needs to be explained by other factors than just competition being sequential.

[26] Schumpeter, Alois, Capitalism Socialism and Democracy (1947) s. 83-84.

[27] There is a vast literature on the European Microsoft cases as well. See e.g. Keith N Hylton and Michael A. Salinger, "Tying Law and Policy: A Decision- Theoretic Approach", (2001) 69 Antitrust Law Journal 469, p.516; Horbath Mc Mahon Kai-Uwe Kühn, Robert Stillman and Christina Caffarra, "Economic Theories of Bundling and their Policy Implications in Abuse Cases: An Assessment in Light of the Microsoft Case", (2005) 1 European Competition Journal 85, pp.111-112; D Howarth and K McMahon, (2008) '"Windows has performed an illegal operation": the Court of First Instance's judgment in Microsoft v Commission', European Competition Law Review, 29 (2), 117 - 134 (0144-3054; C. Ahlborn and S. Evans, "The Microsoft Judgment and its Implications for Competition Policy towards Dominant Firms in Europe", Antitrust Law Journal, 2009, Vol. 75, No. 3, (available at: www.ssrn.com) p. 24.

[28] European Commission, Decision 2007/53/EC relating to a proceeding pursuant to Article 82 of the EC Treaty and Article 54 of the EEA Agreement against Microsoft Corporation, 24 March 2004, www.ec.europa.eu ("Microsoft I Decision") and Case T -201/04 Microsoft v Commission [2007] ("Microsoft I")

format to the detriment of the main competitors and their technologies. Due to direct and indirect network effects the market would then ultimately "tip" to Windows Media Player.

In this regard, competition authorities are not required to wait until the tipping has actually occurred. If it were otherwise, an undertaking would actually be given the time to achieve the very objective of tying and any meaningful intervention would be too late. Indeed, the market had tipped in favor of Microsoft, not least due to the "super-dominance" of Microsoft in the market for PC operation systems with a durable global market share in excess of 90 %.[29]

On appeal, the General Court confirmed in 2007 that Microsoft's tying was indeed abusive. However, the General Court (then CFI) rejected the Commission's invitation to move from a *per se* type of illegality towards a *rule of reason* which would assess positive and negative economic effects of tying and any actual or likely harm to consumers more in detail. It reasoned that having established both market dominance and the various elements of a tying offence, the Commission's findings were in themselves sufficient to establish that there had been a foreclosure of competition, and, once it is demonstrated that there is an advantage from tying over competitors, the impact of such an advantage on competition and consumer welfare will be presumed without a necessity to engage in a detailed rule of reason analysis.

This decision of the General Court has been interpreted in several ways. Some authors have seen this rejection as a sign of court's unwillingness to move towards "effects based" application of Article 102 TFEU and to stick more to formalistic "per se" type of criteria[30]. Other authors have seen more room for a "rule of reason" approach.[31] It has also been pointed to the fact that the General Court gave its decision (that may have been a close call due to a division of opinion) before the Article 102 Guidance Paper on exclusionary abuses was published and that DG Competition has applied a more lenient test in subsequent cases, in particular in the Microsoft EU web browser case.[32] Then again, it cannot be overlooked that the EU courts have remained to say the least untouched towards a more "effects based" application of Article 102 TFEU. One of the latest examples of this attitude is the *Intel* decision of the General Court[33] where the court did not consider it to be necessary to conduct a detailed foreclosure analysis in a case relating to exclusionary rebates. Also there has been

[29] Microsoft decision, para. 841
[30] See e.g. C Ahlborn and D Evans (2009).
[31] See e.g. E Rousseva, Rethinking Exclusionary Abuses in EU Competition Law (2010) p. 250.
[32] See e.g. R O'Donogue and J Padilla, The Law and Economics of Article 102 TFEU, second edition (2013) p. 612-615.
[33] Case T-286/09, Intel Corp. v Commission, [2014], Decision of the General Court, June 12th, 2014.

even harsh criticism towards the effects based test even by a prominent law & economics scholar.[34] These kind of critical voices may or may not be regarded as a tide of turning. In any case, in competition law we have always a trade-off between legal certainty and flexibility. The more flexibility is given to legal norms, the less predictable they become. The more we may win on economic insights, the more we may lose in terms of time and process cost.[35] While antitrust has rightly become a fact-intensive endeavor in the Post-Chicago world, we are still searching for the optimum between predictability and accuracy and are likely to continue so as long as antitrust is around.

As to the legal standard of illegal tying, the EU General Court confirmed in in the Microsoft Media Player case[36] that a tying abuse requires the following elements:

1) The tying and tied goods must be two separate products;

2) The company concerned must be dominant in the tying product market;

3) The company concerned must not refuse customers the choice to obtain the tying product without the tied product;

4) The tying must foreclose competition; and

5) The tying must not be objectively justified.[37]

These elements of an abusive tying (except dominance) will be discussed more in detail below.

4.3 Tying Criteria in in two-sided markets

4.3.1 Tying and tied goods must be two separate products

In Microsoft the Commission stated that the question of separate products must be answered by considering "the reality of the marketplace". The distinctness of products for the purpose of an analysis under Article 102 therefore has to be assessed with a view to consumer

[34] Wouter P. J. Wils, The Judgment of the EU General Court in Intel and the So-Called 'More Economic Approach' to Abuse of Dominance (September 19, 2014). World Competition: Law and Economics Review, Vol. 37, No. 4, 2014. Available at SSRN: http://ssrn.com/abstract=2498407.
[35] See e.g. Kuoppamäki (2013).
[36] Case T-201/04, Microsoft Corporation v Commission of the European Communities, 17 September 2007.
[37] See case T-201/04 Microsoft v Commission, para 842, 869 and 1058. See also Communication from the Commission, Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to Exclusionary abuses, pp. 47 – 62.

demand.[38] If there is no independent demand for an allegedly "tied" product, then the products at issue are not distinct and a tying charge will be to no avail.

A key question remains whether the separate product criteria has to be analyzed on the basis of the tying product, the tied product or both. Two aspects are significant: first the focus is on whether the tied product is sold separately and, second, the existence of demand for that product is deduced from the existence of suppliers.

Microsoft had argued that the correct inquiry is whether the tying product is ever sold without the tied product. Both the Commission and the General Court rejected Microsoft's argument. The Commission argued that on the market there were of undertakings specialized in the manufacture or sale of the tied product without the tying product. This was deemed to be sufficient to fulfill the separate product requirement. Hence, it seems that, it is not necessary to establish the existence of separate demand for the tying product alone. The fact that the market provides media players separately was deemed to prove that there is separate consumer demand for media players that is distinguishable from the demand for client PC operating systems.[39] The General Court (then CFI) added that Microsoft's argument would imply that no complementary products would ever be considered separate.[40]

The separate product test is difficult to apply in two-sided markets since the boundaries of different products are often blurred. The separate product test could lead to a situation in which a dominant undertaking that efficiently integrates two previously separated functionalities into a single product, is forced to produce separate versions of the product (one with both features and two with each feature separately). Also, in two-sided technology-enabled markets, products and consumer demand change over time or, as a matter of fact, very rapidly. It might very well be that, at a certain point, there is separate demand for the tied product without the tying product, but no separate demand for the tying product without the tied product. This is because technology-enabled products tend to evolve to include new

[38] With regard to the requirement of separate products, the Commission's Guidance Paper states as follows: "Whether the products will be considered by the Commission to be distinct depends on customer demand. Two products are distinct if, in the absence of tying or bundling, a substantial number of customers would purchase or would have purchased the tying product without also buying the tied product from the same supplier, thereby allowing stand-alone production for both the tying and the tied product." This would seem to imply that two products are considered separate if there is separate consumer demand for both the tying and the tied product.

[39] See the Commission Decision at para 809; confirmed in Microsoft CFI Judgment at para 921-923]. This was particularly likely, the Commission found, where original equipment manufacturers ("OEM"s) act as intermediaries by combining different hardware and software components

[40] Microsoft, Court judgment at para 921.

features, which often leads to situations where there is still separate demand for, and production of, the tied product but consumers are no longer interested in buying the tying product without the allegedly tied feature.[41]

Then again, in the Microsoft case the separate product test was relatively easy to show: media players had been clearly sold a separate products at the point of time the abuse started and still were at the market when the Commission's decision was made (and in fact still are today). It is submitted that it is a better choice to consider separateness of the products first and deal with efficiency question later in the analysis. The market had seen more and more concentration as a result of Microsoft's bundling practices, as regards of internet browsers and word processing software for instance so a legal precedent on illegal bundling was clearly needed from the EU institutions to avoid type II mistakes (too lenient application) going forward.

In case of type I mistakes (too strict application of the prohibition) the cost of developing products through technological integration will grow exponentially with the number of "unbundled" versions mandated by law. Yet, in practice tying prohibition has been applied only in a few exceptional cases where the dominant company has had very substantial market power or a near monopoly. Hence practical difficulties should not be over-estimated. Nevertheless, these kinds of effects suggest that utmost care should be applied before regulators intervene with product integration decisions of technology companies.

4.3.2 "Coercion" or limiting the supply the tying product without the tied product

Tying means that the customer is coerced to buy something she does not really want, for instance apples are sold only if the consumer agrees to buy oranges as well from the same seller.[42] The dominant seller may exploit consumers of the dominant undertaking when they purchase supplementary products, which they do not actually need. On the other hand, coercion may restrict the customers' freedom of choice between different supplementary products, which they do need but where their preference would have been another vendor. This may lead to the foreclosure of competing manufacturers of the tied product, since the

[41] Consider, for instance, present-day mobile phone markets where most consumers today prefer to have a smartphone integrated browser, email services, camera, media player, and so on. Like discussed above, Windows can be perceived as a multi-sided platform which provides a foundation for software applications like word processing, multimedia applications or email programs. Microsoft had argued that Windows Media Player has to be considered as a new functionality that has been integrated into Windows in response to technological advances and changes in customer demand. Yet, that argument was (correctly) dismissed due to the separate demand of the products.

[42] In many cases "bad bundling" boils down to a "refusal to deal".

customer is automatically locked into the dominant undertaking's tied product. The customer concerned no longer has the resources or incentives (in terms of money, space, time) to purchase substitute products supplied by competitors.

The "refusal to deal" or "coercion" element on a tying abuse means that the dominant company must one way or another limit the choice of its contracting parties by offering the tied product only in exchange for the customer taking the tied product as well.

Like stated in the Microsoft Media Player case, it is not required that there needs to be "coercion" but it suffices that in practice only one choice is offered to the contracting party. In that sense "coercion" can be contractual (buying the toying and tied product together is mandated in a contract), economic (buying the tying and tied product together is economically the only viable alternative) or factual (the customer is left no other choice than buying both products together). It can also be a mixture of these. Hence, in business life restricting customer choice may be a more appropriate angle than "coercion" that creates the vision of mental or physical force being used. In particular when dealing with customers, business practices are subtler, and actions tasting after "brute force" must be avoided even by companies in a legal monopoly position.[43]

The condition of "coercion" requires the undertaking concerned not to give customers a choice to obtain the tying product without the tied product. In Microsoft media player case the Commission and the General Court argued that there was clear evidence that Microsoft had coerced Original Equipment Manufacturers (OEMs), which acquired Windows, into also obtaining Windows Media Player. Under Microsoft's licensing system, OEMs were required to license the Windows operating system with Windows Media Player. As such, OEMs were considered to be direct addressees of the coercion and allegedly passed it on to end-users. The

[43]In the Microsoft media player and browser cases it was deemed that what is preinstalled in the PC is also what consumers in most cases actually used. It seems that if an application is preloaded on a device as a default service this increases significantly the likelihood of the consumer ending up using that service. The Commission equated coercion with a lack of consumer choice about whether or not to obtain the tied product from the supplier of the tying product. This was easily made out because Windows was only available with WMP installed (usually through OEMs) and it could not be uninstalled. Microsoft argued that this approach did not meet the requirement of Article 102 (d) that "the conclusion of contracts must be made subject to acceptance by the other parties of supplementary obligations…" Consumers, Microsoft argued, were not under a "supplementary obligation" because there was neither an additional charge for WMP, nor were consumers required to use it WMP they preferred a competing product. The General Court rejected this approach. It said that because a separate price was not apparent did not mean it was not present; it was simply included in the price of Windows. In any event, it agreed with the Commission that the case law did not require either an additional charge or an obligation to use the tied product. The court argued that "users who find [Windows Media Player] pre-installed on their client PCs are indeed in general less likely to use alternative media players as they already have an application which delivers media streaming and playback functionality". Court decision, para 971.

General Court held that the inability of consumers to acquire the tying product without simultaneously acquiring the tied product was sufficient to conclude that there had been coercion.

Yet, the key in restricting choice in Microsoft seems to be that the media player was not offered for free but it was bundled with the Windows OS and there was a relatively high price for this product. Under these conditions it must be presumed that part of the price of the Windows OS covered the functionality of the Microsoft Media player, which was "baked" into the bundled price. Hence, the coercion existed as regards of the OEMs but indirectly also as regards the consumers as their choice was pre-empted by the software integration: the consumers had had to pay for the media player when the bought the Windows OS either separately or bundled to a PC. Other providers of media players did not have the choice of bundling their product to dominant operating systems, which explains both the "coercion" and the "foreclosure" effect in this case. In tying case the question is whether the customer is coerced to buy a second (tied) product in addition to tying product and this may be considered illegal even if the customer is not prevented from buying subsequently a third product that competes with the second product. This is because the tie exists already on the basis of necessity to buy the second product. Access to the third product may or may not affect the foreclosure test but it does not remove the ban on tying as regards the second product if tying has already been exercised.

4.3.3 Tying must foreclose competition

According to the existing case-law relating to traditional tying cases under Article 102 TFEU for instance in Hilti and Tetra Pak, it has been assumed the tying of a specific product and a dominant product has, by its nature, a foreclosure effect. This formalistic *per se* type statement was repeated by the general court in Microsoft [44] although the Commission has proposed as *rule of reason* test that it considered more appropriate for digital software markets. Nevertheless, the Article 102 Guidelines on Commission's own enforcement priorities as regards exclusionary abuses contain a rule of reason analysis similar to US antitrust law.

[44] Case T-201/04 Microsoft v Commission, at paragraph 868; Eurofix-Bauco v. Hilti) (OJ L 65, 11.3.1988, p. 19), upheld in Case T-30/89, Hilti v Commission [1991] ECR II-1439, itself confirmed by the Court of Justice in Case-53/92 P Hilti v Commission [1994] ECR I-667; case T-83/91 Tetra Pak v Commission [1994] ECR II-755, itself confirmed by the Court of Justice in Case C-333/94 P Tetra Pak v Commission [1996] ECR I-5951.

According to the Article 102 Guidelines the Commission will normally take action under Article 102 (i) where an undertaking is dominant in the tying market and where, in addition, the following conditions are fulfilled: (ii) the tying and tied products are distinct products, and (iii) the tying practice is likely to lead to anti-competitive foreclosure.[45] When considering anti-competitive foreclosure in the context of tying, the Commission will look in particular at the following factors:

1) the degree of permanency of the effects of the tying: the risk of anti-competitive foreclosure is expected to be greater where the dominant undertaking makes its tying or bundling strategy a lasting one, for example through technical tying;
2) the greater the number of products in a bundle within which the undertaking is dominant, the stronger the likely anti-competitive foreclosure;
3) the degree of demand for the tied product: if there is insufficient demand for the tied product alone to sustain competitors who offer alternatives of the tied product, the tying can lead to those customers facing higher prices; and
4) the degree to which the dominant undertaking can prevent a decrease in demand for the tied products by tying it to the tying products.[46]

In Microsoft Media player case Microsoft argued that consumers remained free to use the media player of their choice. Hence, there could be no real foreclosure as competing products always remained available even if they were not preinstalled on Windows. The Commission and the Court rejected this argument with the reference to the fact that due to "consumer

[45] See Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant undertakings, OJ 2009/C 45/02, p. 34 and 35.

[46] In the Microsoft Media Player case the Commission presented a three-stage argument of how the tying conduct would foreclose competition 1) because it was bundled with Windows, WMP had an "unparalleled presence" on PCs (ubiquity) and means of distributing competing media players (such as agreements with OEMs or downloading via the Internet) were less efficient bundling with Windows; 2) because of ubiquity, content providers and software developers focus their development efforts on the WMP format, making competing media players less attractive to consumers ("indirect network effect"); and 3) the result, as evidenced by market data, was that WMP‟s market share increased at the expense of other players Microsoft countered this argument in court by stating that OEMs were free to install competing players and, on average, users installed more than one media player. Furthermore, consumers could easily download the media player of their choice. The Court nevertheless held that there was a reasonable likelihood that tying Windows and Windows Media Player would lead to a lessening of competition so that the maintenance of an effective competition structure would not be ensured in the foreseeable future. See Microsoft Court judgment, para 1089. In Microsoft European browser case, where Microsoft was later fined heavily for failing to comply with its commitments made in December 2009 the Commission followed the same reasoning as in Microsoft Media Player case. In addition, to confirm that the tying of Microsoft's web browser (Internet Explorer) to its dominant client PC operating system (Windows) was indeed abusive, the Commission relied on empirical analyses indicating that more than half of Windows users, and about two thirds of Windows users having Internet Explorer as their main web browser, did not download web browsers from the internet or were reluctant to do so.

inertia" most consumers did not bother to download another media player even when they were readily available and easy to download. In fact, the statistics showed that most consumers continued to use the media player that had been pre-installed. Later same argumentation was used by the Commission in the European Microsoft browser case.

Indeed, one may ask why consumers are so "reluctant" to behave "rationally". In these two-sided markets consumers can download media players and search machines for free. In general, one might assume that where customers face only nominal costs to switch products, then tying or bundling is unlikely to be able to foreclose. However, behavioral economics suggests that even small switching costs can have significant effects on consumer behavior in the presence of consumer inertia, endowment effects, and default bias. It might be argued that there is nothing surprising in this. First, many consumers stick to a product as long as it works "reasonably well", both as regards traditional products and online products. Second, there is nothing surprising if a modern-time consumer decides to spend her increasingly sparse free time say on music, gardening, sports or spending time with the family instead of downloading "the latest gadgets" on the home computer. In fact, this kind of consumer behavior is rational; the only thing that is not rational is the insistence on "rational choice" modeling even in situations where it does not correspond with the empirical realities. In antitrust demand analysis must always be based on empirical facts. This is even more so in complicated two-sided markets where seemingly small details can have a great effect on the outcome of the case.[47]

The Microsoft media player case is known also for its failure as regards remedies: the Commission imposed a remedy whereby Microsoft had to offer in Europe a "media player free" Windows operating system to OEMs and to consumers. As the price of the "reduced" version was the same as the price of a "full version" obviously the remedy did not produce

[47] The importance of pre-installed applications also means that while theoretically speaking competition is "only one click away" in practice it is not. Naturally, there is more competition for consumers when they can switch from one provider to another or use both of them at the same time. In this particular case this defense argument seems to have significant weaknesses. First of all, it is a well-known feature of multi-sided platforms that they often tend to lock in customers. They can do so by offering exclusivity agreements as well as bundling and tying their services. Modern PCs, laptops, tablets and smartphones have become distribution platforms for all kind of normally apps based digital services as they have started offering a plethora of online and offline tools like navigation, email, calendar, search, photo, video, internet services, time management etc. Consequently, pre-installment of certain services becomes a "fait accompli even if - technically speaking –switching, say to another media player, can be quite easy by simply downloading the relevant software and signing in to the new service. On the contrary, the ballot screen remedy seems to have worked much better as the "sleepy consumer" is "woken up" from time to time and is forced to take position on which browser to use.

any significant results. Only a few thousands copies were sold as compared to millions of copies of the "full" version including a media player.

A much more effective remedy was found in the Microsoft browser case where the Commission imposed a "ballot screen remedy" whereby Microsoft had to offer consumers an effective opportunity to select the browser of her choice, be it Google Crome, Opera, Mozilla Firefox or Internet Explorer. In terms of impact this remedy has worked quite well, market shares have fluctuated, the share of the incumbent has gone down and new companies have been able to enter the market and increase their share. In terms of compliance here has been a significant problem that has lead to imposition of a high fine for breaching the ballot screen commitment. The level of the fine imposed on Microsoft, 561 million euros, highlights the importance of living up to competition law commitments.[48]

It is interesting to note that one the key defense arguments *Microsoft* and *Google*, has been that competition is effective because consumers can *freely download* a competing products if they wish to do so, which would means that competition is only "one click away". Hence, it could be argued, there can be no foreclosure as the switching costs are close to zero.

It can be argued that in two-sided software markets the acquisition of the tied product will often not prevent or limit the acquisition of other, substitutable, products. This argument seems to be particularly convincing if the downloading is easy and it can be done with no extra cost. Also, due to the growing usage and storage capacity of today's computers, laptops, smartphones multi-homing has become more and more an option.[49]

In two-sided digital markets tying may still provide harmful effects, for instance when the dominant players uses tying practices to force traffic to its own network and to correspondingly exclude competing platforms. If the monetizing mechanism is based on advertising, digital platforms are actually competing for consumer's "eyeballs", i.e. visits to the website and the highly valuable customer data that can be collected on these visits which will then be sold to the advertisers, and for the most lucrative advertising contracts, and not for money of the consumer. In this context in terms of "coercion" whether the consumer

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[48] See, Commission's press release IP/13/196, March 6, 2013, http://europa.eu/rapid/press-release_IP-13-196_en.htm.

[49] In Microsoft Media Player the General Court agreed with the Commission that "users who find [Windows Media Player] pre-installed on their client PCs are indeed in general less likely to use alternative media players as they already have an application which delivers media streaming and playback functionality". Case T-201/04, Microsoft Corporation v Commission of the European Communities, 17 September 2007, paragraph 971.

product is offered for free or not may be totally beside the point. The key question as regards tying is whether customers or advertisers are tied to the dominant two-sided platform in a way that is too restrictive and leads to foreclosure.

4.3.4 Tying must not be objectively justified

It is well known that tying can produce significant efficiencies. In case of digital platforms this is obvious: offering a product for free on one side of the market will by its nature necessitate a certain degree of tying i.e. that the customer will, for instance, buy another product or, in case of a search machine or social network, allow her user data to be utilized commercially.

Microsoft claimed that three related efficiencies justified tying. First, the integration of new functions was part of its Windows business model, which allegedly made it a more useful and attractive platform for developers and results in lower consumer transaction costs. Second, the integration of WMP meant that developers, content providers and consumers could rely on standard media functionality being available. Third, removing WMP would degrade the performance of Windows generally. Both the Commission and the Court rejected the first claim on the grounds that the efficiencies could be achieved without tying: consumer demand for pre-installed media players would be satisfied by OEMs installing one prior to delivery.[50] As regards the standardization, the Commission held that rather than being an efficiency argument, this was exactly the competition problem it sought to address.[51] The court agreed with the Commission that there was insufficient evidence to support Microsoft's claim that unbundling was not possible or that technical performance of Windows would be degraded by removing WMP.[52] It may be added that in fact, the complainants had proven technically at the oral hearing that, contrary to the claims of Microsoft, the media player could be removed with ease from Windows and that both software products worked perfectly well after the unbundling. This was demonstrated with a "technical showcase" on a big screen for the big audience in the oral hearing. It seems that Microsoft was overplaying its bundling case with questionable technical arguments that could be rebutted by the opponents. In retrospect, this

[50] See Microsoft, Commission's decision, para 956-961; Microsoft CFI Judgment, para 1155.

[51] See Microsoft , Commission's decision at para 969. The Court concluded that claiming efficiences on the basis that only one company would provide the service for all the consumers came close to stating that monopoly should be preferred. Court at papa -.

[52] See Microsoft, Court judgment, para 1163; Commission decision, para 1026. It may be also be added that the complainants had proven technically at the oral hearing that, contrary to the claims of Microsoft, the media player could be removed with ease from Windows and that both software products worked perfectly well after the unbundling.

affected the credibility of the bundling defense overall. In Microsoft, while it was agreed that tying and bundling could lead to efficiencies, an argument that a dominant position is required to provide maximal efficiency benefits, was met with skepticism.[53]

Commission's Guidelines on the application of Article 102 TFEU explicitly recognize many of the factors that appear critical in assessing competition in two-sided platforms. In particular, paragraph 20 emphasizes the conditions on the relevant market for this assessment "…this includes the conditions of entry and expansion, such as the existence of economies of scale and/or scope and network effects. Economies of scale mean that competitors are less likely to enter or stay in the market if the dominant undertaking forecloses a significant part of the relevant market. Similarly, the conduct may allow the dominant undertaking to tip a market characterized by network effects in its favor or to further entrench its position on such a market."[54] The Commission may also consider whether tying and bundling practices allow the supplier to pass on efficiencies arising from its production or purchase of large quantities of the tied product.[55]

However, according to the Guidelines any such justification necessitates a demonstration that the conduct is objectively necessary or by that its conduct produces substantial efficiencies, which outweigh any anti-competitive effects on consumers. To be allowed the conduct in question needs to be *indispensabl*e and *proportionate* to the goal allegedly pursued by the dominant undertaking.[56] The dominant company bears the burden of proof for any efficiency benefits. It then falls to the Commission to make the ultimate assessment of whether the conduct concerned is not objectively necessary and, based on a weighing-up of any apparent anti-competitive effects against any advanced and substantiated efficiencies, is likely to result in consumer harm.[57] Furthermore, under Article 102 TFEU stricter rules apply and any competitive harm must be compensated by clearly established and proven efficiency benefits

[53] Case C-333/94 P, Tetra Pak International v Commission, ([1996] ECR, p. I-5951.
[54] See the Guidance paper on exclusionary abuses, p. 20.
[55] The Commission may also consider whether such practices reduce transaction costs for customers, who would otherwise be forced to buy the components separately, and enable substantial savings on packaging and distribution costs for suppliers. It may also examine whether combining two independent products into a new, single product might enhance the ability to bring such a product to the market to the benefit of consumers. See the Guidance paper on exclusionary abuses, p. 62.
[56] See p. 28 of the Guidance paper.
[57] Guidance paper, p. 31.

that not only compensate consumers but also that only such means are used that are proportionate and do not exclude all competition.[58]

As the case law succinctly puts it, "[r]ivalry between undertakings is an essential driver of economic efficiency, including dynamic efficiencies in the form of innovation. In its absence the dominant undertaking will lack adequate incentives to continue to create and pass on efficiency gains".[59] Also the recent judgment of the EU General Court in the Intel case seems to put strict limits on an efficiency defense under Article 102 tying case although the Intel case dealt, as such, mainly with exclusivity and exclusionary rebates.[60]

Winning an efficiency defense in an Article 102 case remains a tall order. No doubt, as regards digital platforms arguments can be made that there are complementarities and some efficiency benefits only one company provides all the services to the consumer. That argument was, unsuccessfully, tried in the Microsoft case. Like the General Court remarked, while there might be some efficiency benefits, overall dynamic efficiency is best served if choice is left to consumers.[61] In other words, competition is preferred to monopoly and

[58] Like stated above, the burden of proof lies on the defendant to show that the positive effects outweigh the anticompetitive effects. There are several justifications possible, which are regularly argued by the accused undertaking. Often arguments relating to economies of scale and scope, or complementarities, are made. However, if these arguments are directly or indirectly based on an assumption of a bigger portion of the market being taken as a result of the tying practice, they have run into difficulties. One justification often referred to is that the tying is necessary in the context of quality, usage or safety of the product. The safety argument was raised in the Hilti case but was squashed as it is "not the dominant company's responsibility to guarantee the safety of other company's products." Case C-53/92P Hilti AG v. Commission [1994] ECR I-667, p. 102 – 107. Generally speaking, EU courts have taken a restrictive approach towards tying defenses.

[59] Guidance paper on exclusionary abuses, p. 30.

[60] See case T-286/09, Intel v. European Commission, judgment of the EU General Court of 12 June 2014, paragraphs 75, 86 and 93.

[61] "Next, the Court considers that Microsoft is not entitled to rely on the fact that the bundling ensures the uniform presence of media functionality in Windows, which enables software developers and Internet site creators to avoid the need to include in their products mechanisms which make it possible to ascertain what media player is present on a particular client PC and where necessary to install the necessary functionality (see paragraphs 1107, 1111 and 1115 above). The fact that that tying enables software developers and Internet site creators to be sure that Windows Media Player is present on virtually all client PCs in the world is precisely one of the main reasons why the Commission correctly took the view that the bundling led to the foreclosure of competing media players from the market. Although the uniform presence to which Microsoft refers may have advantages for those operators that cannot suffice to offset the anti-competitive effects of the tying at issue. As the Commission correctly observes (see paragraph 1130 above), by such an argument Microsoft is in fact claiming that the integration of Windows Media Player in Windows and the marketing of Windows in that form alone lead to the de facto standardisation of the Windows Media Player platform, which has beneficial effects on the market. Although, generally, standardisation may effectively present certain advantages, it cannot be allowed to be imposed unilaterally by an undertaking in a dominant position by means of tying. The Court further notes that it cannot be ruled out that third parties will not want the de facto standardisation advocated by Microsoft but will prefer it if different platforms continue to compete, on the ground that that will stimulate innovation between the various platforms." Microsoft v. Commission, Judgment of the Court of First Instance (Grand Chamber), 17 September 2007, p. 1151 – 1153.

efficiencies will not suffice and in particular not where there are other less restrictive means to achieve same kind of efficiency.

It seems that, in a case of trade-off, according to the Court's case law relating to Article 102 TFEU competition is clearly put before efficiency arguments, not to least because it is believed that the competitive process, if held in tack, will find efficient solutions without the necessity of the Court to engage in complicated balancing actions.

5. Google cases

5.1 Statement of Objections regarding Google's comparison shopping

The latest twist on the Google case is that on April 14, 2015 the European Commission has sent a Statement of Objections[62] to Google outlining the Commission's preliminary view that the company is violating Article 102 TFEU by "systematically favoring its own comparison shopping product in its general search results pages in the European Economic Area (EEA)". The Commission is concerned that users do not necessarily see the most relevant results in response to queries – to the detriment of consumers and rival comparison shopping services, as well as stifling innovation.

Google has a dominant position in providing general online search services throughout the EEA, with market shares above 90% in most EEA countries.[63] The Statement of Objections outlines that the markets for general search and comparison shopping are two separate markets. In the latter market, Google faces competition from a number of alternative providers.

The Statement of Objections alleges that Google treats and has treated more favorably, in its general search results pages, Google's own comparison shopping service "Google Shopping" and its predecessor service "Google Product Search" compared to rival comparison shopping

[62] http://europa.eu/rapid/press-release_MEMO-15-4781_en.htm. As is well known, a statement of objections is a formal step in Commission investigations into suspected violations of EU antitrust rules. The Commission informs the parties concerned in writing of the objections raised against them. The addressees can examine the documents in the Commission's investigation file, reply in writing and request an oral hearing to present their comments on the case before representatives of the Commission and national competition authorities. The Commission takes a final decision only after the parties have exercised their rights of defense. There is no legal deadline for the Commission to complete antitrust inquiries into anticompetitive conduct. The duration of an antitrust investigation depends on a number of factors, including the complexity of the case, the extent to which the undertaking concerned cooperates with the Commission and the exercise of the rights of defense.

[63] Since 2002, Google has also been active in providing comparison shopping services, which allow consumers to search for products on online shopping websites and compare prices between different vendors. The first product it offered, "Froogle", was replaced by "Google Product Search", which in turn was replaced by its current product "Google Shopping".

services. Google's conduct may therefore artificially divert traffic from rival comparison shopping services and hinder their ability to compete, to the detriment of consumers, as well as stifling innovation. More specifically, the preliminary conclusions are:

Google systematically positions and prominently displays its comparison shopping service in its general search results pages, irrespective of its merits. This conduct started in 2008.

Google does not apply to its own comparison shopping service the system of penalties, which it applies to other comparison shopping services on the basis of defined parameters, and which can lead to the lowering of the rank in which they appear in Google's general search results pages.

Froogle, Google's first comparison shopping service, did not benefit from any favorable treatment, and performed poorly. As a result of Google's systematic favoring of its subsequent comparison shopping services "Google Product Search" and "Google Shopping", both experienced higher rates of growth, to the detriment of rival comparison shopping services.

According to the Commission, Google's conduct has a negative impact on consumers and innovation. It means that users do not necessarily see the most relevant comparison shopping results in response to their queries, and that incentives to innovate from rivals are lowered as they know that however good their product, they will not benefit from the same prominence as Google's product.

The Statement of Objections takes the preliminary view that in order to remedy the conduct, Google should treat its own comparison shopping service and those of rivals in the same way. This would not interfere with either the algorithms Google applies or how it designs its search results pages. It would, however, mean that when Google shows comparison shopping services in response to a user's query, the most relevant service or services would be selected to appear in Google's search results pages. Sending a Statement of Objections does not prejudge the outcome of the investigation.

The Commission has previously outlined four concerns as regards Google's conduct. The published Statement of Objections relates only to the first of those concerns. In the context of that concern, the Commission continues to actively investigate Google's conduct as regards the alleged more favorable treatment of other specialized search services. The Commission has announced that continues to actively investigate Google's conduct with regard to the other

three concerns: 1) copying of rivals' web content (known as "scraping"; 2) advertising exclusivity and 3) undue restrictions on advertisers.[64]

The case will shed light on the importance of information as an asset in a two-sided digital platform. First, information can be an input of production that enables a business to improve its service offerings and increase its returns. Second, information can be a strategic asset that allows a platform to maintain a lead over rivals and to limit entry into its market. Third, information can be a valuable commodity, which the firm could sell to other businesses that cannot collect the data themselves. The statement of objections seems to be an application of the principle discussed above that rivals can be blocked out by channeling the traffic to own services of the dominant digital platform.

It is still a bit unclear how to legally characterize the conduct described in the Statement of Objections as so far only the Commission's press release has been published. In the literature the pending Google case has been analyzed as a tying case[65] or even as refusal to deal[66]. In the first alternative Google is illegally tying other services with its quasi-monopolistic search platform. The refusal to deal angle would treat Google as a vertically integrated company that refuses to provide services that allow its down stream competitors and customers an unbundles access to Google search without the bundling of Google's own comparison shopping network to it or a case with a prize squeeze flavor where Google is degrading the service (access) it offers to its competitors in order to gain an illegal competitive edge. Other catchwords that have been offered for this kind of abuses on the other side of the Atlantic, are raising rivals' costs[67], or (as regards scraping) forced free riding[68]. There are, of course other

[64] The sending of a Statement of Objections in relation to comparison shopping does not in any way prejudge the outcome of the Commission's investigation of the other three concerns.

[65] See e.g. Benjamin Edelman, Leveraging Market Power through Tying and Bundling: Does Google Behave Anti-Competitively?, Working Paper, 14-112, May 12, 2014, http://ssrn.com/abstract=2436940

[66] http://chillingcompetition.com/2015/04/24/how-to-distinguish-between-tying-and-refusal-to-deal-cases-hint-its-not-just-words/

[67] See e.g. Shelanski (2013) p. 1696: "This first category of conduct comprises activities that impede rivals without benefitting consumers. … More recently, Microsoft accused Google of similar conduct: preventing rival search engines from fully searching and indexing YouTube, allegedly constraining search rivals to video search results that were inferior to Google's. Similarly, the FTC investigated allegations that Google used proprietary interfaces (APIs) to make it harder for advertisers on Google's platform to move their ad campaigns to competing platforms. In the face of the FTC's investigation of such complaints, Google reversed its API policy. To the extent that a digital platform alters a product specifically to interfere with the competitiveness of rival platforms, it interferes with the growth of rivals and with the Schumpeterian cycle through which the currently dominant firm must innovate or be creatively destroyed." See generally Steven C. Salop & David T. Scheffman, Raising Rivals' Costs, 73 American Economic Review 267, 267-69 (1983).

[68] See e.g. Shelanski (2013) p. 1699: "Forced free riding occurs when a platform appropriates innovation by other firms that depend on the platform for access to consumers. For example, some online businesses have

alternatives. The press release explains the conduct but interestingly does not go into detail as regards the legal classification of the alleged abuse. This might indicate that the Commission sees Google's market behavior raising quite novel issues that do not fit into the existing "boxes". Therefore one very decent possibility would be an *Astra Zeneca* type of case involving new *sui generis* abuses[69], but this time in the search industry. Certainly more light will be shed on this in due time when more Commission's documents become public.

5.2 Android case

The most recent example of complaint relating to tying practices of a dominant player in digital industries concerns the Android mobile platform. On 15 April 2015, the European Commission also announced[70] that it has opened formal proceedings to investigate whether Google has breached Article 101 and/or Article 102 of the TFEU by virtue of its conduct in relation to the Android mobile operating system. The investigation relates to certain conditions in Google's agreements for the use of Android and Google's proprietary applications and services. The Commission's investigation will focus on whether Google has hindered the development and market access of rival mobile operating systems, applications and services to the detriment of consumers and developers of innovative services and products.

Specifically, the Commission is investigating allegations that Google requires or incentivizes smartphone and tablet manufacturers to exclusively pre-install Google's own applications or services and prevents them from developing competing versions of Android, and that it ties or bundles certain Google applications and services distributed on Android devices with other Google applications, services and/or application programming interfaces.

Android is an open-source mobile operating system based on a Linux kernel, meaning that it can be freely used and developed by anyone. The majority of smartphone and tablet manufacturers, however, use the Android operating system in combination with a range of Google's proprietary applications and services. In order to obtain the right to install these applications and services on their Android device manufacturers need to enter into certain agreements with Google.

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accused Google of "scraping" content from competitors—or potential competitors—in lines of business vertically related to Google's search platform and using that content on its proprietary websites."

[69] Case C-457/10 P AstraZeneca v Commission, judgment of the CJEU, 6 December 2012.

[70] On Android investigation see http://europa.eu/rapid/press-release_MEMO-15-4782_en.htm.

Following the receipt of two complaints, as well as an initial investigation carried out by the Commission on its own initiative, the Commission has now opened a formal investigation to assess if certain conditions in Google's agreements associated with the use of Android and Google's proprietary applications and services breach EU antitrust rules.

More specifically, on the basis of the information currently available to the Commission, the investigation will at this stage focus on the following three allegations:

1. whether Google has illegally hindered the development and market access of rival mobile applications or services by requiring or incentivising smartphone and tablet manufacturers to exclusively pre-install Google's own applications or services;
2. whether Google has prevented smartphone and tablet manufacturers who wish to install Google's applications and services on some of their Android devices from developing and marketing modified and potentially competing versions of Android (so-called "Android forks") on other devices, thereby illegally hindering the development and market access of rival mobile operating systems and mobile applications or services
3. whether Google has illegally hindered the development and market access of rival applications and services by tying or bundling certain Google applications and services distributed on Android devices with other Google applications, services and/or application programming interfaces of Google.

Android is nowadays the dominant mobile operating system. A new entrant who would like to compete with Android, would need to figure out a profitable way to enter the market in a situation where more than 70 % of all mobile OS software and more than 90 % of the licensed-out mobile OS software is controlled by Google, key services and software would needed to be offered to a zero price or close to it and where most OEMs could potentially be tied to de facto exclusive arrangements. Furthermore, Google is also controlling the search advertising based alternative monetization mechanisms and may have abusive practices in place that are currently investigated by the European Commission and have been discussed above.

This case is similar to the Microsoft media player and browser cases in that sense that what is preinstalled in the smartphone is in many cases also what consumers actually use. If an application is preloaded on a device as a default service this increases significantly the likelihood of the consumer ending up using that service. This may depend on a service but

this is the case at least with maps. It is striking that many of the most popular applications on Android phones are Google's own proprietary services and that these are exactly the same services that an OEM must preload on the basis of the contractual arrangements. It may be that, like in Microsoft, only few consumers seem to change the default settings. This may be called "consumer inertia" or "bounded rationality" depending on the view. In fact, most consumers are happy to have a smartphone that fulfils their basic requirements. Normally consumers download apps of their "special interest" relating to, for instance, gaming, news, sports etc. Conversely, the key characteristic here is that for basic apps like the browser or navigation, consumers tend to use the pre-installed services because it is convenient and easy to do so and they switch to other products only if there are overwhelming benefits for it. Furthermore, like in the Microsoft case there are network effects need to be taken into account. It has been argued that network effects for a mobile OS might be less significant than for PC operating system.[71] Whether that statement can be regarded as a correct analysis or not cannot be answered in this paper. However, it must also be taken into account that in this case the operating system is not the only "hook" but also arrangements and restrictions relating to Google search and youtube need to be taken into account before any realistic conclusion on the overall nature and effects of the tie and/or exclusivity arrangements can be reached.

While the dominant position may have been well deserved historically if the market has become very concentrated tying-practices may also limit the possibilities to challenge the dominant player with new innovations. Hence, while the market dynamism generally suggests that competition authorities do not intervene and allow markets to self-correct, it is possible that this will not happen. Under present circumstances it appears difficult to see how effective entry could happen. If Schumpeter's creative destruction is used as an argument against intervention in cases where markets are likely to self-correct, then it must be also true that practices of incumbent player that limit entry may also decrease innovation and consumer welfare.[72]

In this case, in particular, it must be evaluated whether Google's tying practices are allowed because we are dealing with a multi-sided market. Tying is a fundamental business strategy

[71] See Torsten Körber, Let's Talk About Android – Observations on Competition in the Field of Mobile Operating Systems (July 4, 2014), p. 19. German Version: NZKart 2014, 378 - 386. Available at SSRN: http://ssrn.com/abstract=2462393; http://awards.concurrences.com/IMG/pdf/ssrn-id2462393.pdf

[72] See e.g. Shelanski (2013) p. 1693.

in a wide variety of markets, including two-sided platform businesses. Most platforms design their products in a way that combines things that could, in principle, be sold separately. These ties foreclose customers on one side or the other from certain choices that may prove beneficial to them.

Commission's press release implies that Android smartphone OEMs have to accept the package that is given to them. In this kind of case it can be the result of contractual provisions, commercial terms or technological incentives. Of course if the dominant player imposes *exclusivity* on the OEMs, this will foreclose most of the market from Google's software and service competitors. *Bundling* practices could have a similar effect, like was established in Microsoft. As such it is not decisive whether the tie is a result of commercial agreements, technical implementation or economic conditions created or a combination of these elements. All these need to be taken into account. At first sight tying looks like an efficiency enhancing arrangement in a two-sided market since most of the OEMs have only a limited service offering of their own. However, the effect of the bundling practices can be a reduction in competition and higher costs for the rivals as the market access of competing services is foreclosed. Google's bundling practices may create entry barriers because potential competitors have little chance of entering the market, especially as they are deprived from the necessary scale. Like in the Microsoft Media Player and Browser cases, the fact that most OEMs produce hardware and not software and services, does not mean that there is not competitive harm but rather that the key question to be asked is different, i.e. how does this affect possibilities of Google's software and service competitors who try to compete with Google. Even if some ties are objectively necessary, it does not mean that all of them are.

Commission's third enquiry relates to *open source*. Under the open source principles any company is allowed to develop Android further and fork it. Yet, to make this open source principle living law a non-discriminatory co-existence in the Android ecosystem is a necessity. The Commission will investigate whether Google prevents smartphone and tablet manufacturers who wish to install Google's applications and services on some of their Android devices from developing and marketing modified and potentially competing versions of Android (so-called "Android forks"). This enquiry is likely to raise novel and interesting legal issues, as there is not much EU antitrust case law on this particular topic.

In this case a new market entry seems quite difficult because the market price for mobile operating systems is close to zero and hence no licensing fees can be expected to finance the

development of a new operating systems. Furthermore, also the advertisement based monetization mechanism is firmly controlled by Google. Hence, it seems unlikely that the market would self-correct itself absent intervention of competition authorities. Obviously, the opening of formal proceedings does not prejudge the outcome of the investigation. That being said, an in-depth investigation into Google's practices is certainly warranted.

6. Conclusion

Although there are some initially plausible arguments that digital markets are too difficult for competition authorities to deal with and should be left largely outside of the scope of antitrust enforcement due to high error costs and the dynamic and sometimes unpredictable nature of digital markets[73], the author of this article finds such policy recommendations largely unconvincing. First, it is true that in digital markets there is a greater dynamism than in many other markets but the markets can go in both directions, i.e. both towards new competition emerging as well as towards durable market dominance. Second, while it is true that old structural measurement tools are neither fully reliable nor sufficient (even) in high tech markets, this only means that new, more dynamic tools, including innovation and information analysis, need to be applied as well. Third, while there are valid arguments that false positives might kill innovation, likewise there are valid arguments that false negatives might kill innovation. Fourth, while it is true that digital markets might be hard to understand, there are also other complicated industries regulators need to deal with. The key is always to really understand the value chain of a given industry as well as the key parameters that decide on success and failure. Fifth, a large portion of economic growth comes from innovation and high tech industries. Therefore, if high tech industries are left off the radar screen this is another way of arguing a laissez fair policy towards application of antitrust in important business sectors. If antitrust law is to make a positive societal contribution it will need to deal also with difficult sectors where the stakes are high from a consumer welfare point of view.[74]

There is (still) a lot of confusion around the question on how to deal with two-sided platforms in an Article 102 context. On the one hand, there are situations where the two-sidedness of the market explains why it makes perfect sense in terms of business, common sense or even

[73] See e.g. Geoffrey A. Manne & Joshua D. Wright, Google and the Limits of Antitrust: The Case Against the Case Against Google, 34 HARV. J.L. & PUB. POL'Y 171, 244 (2011); David McGowan, Between Logic and Experience: Error Costs and United States v. Microsoft Corp., 20 Berkeley Tech. L.J. 1185, 1189-90 (2005); Miguel Rato and Nicolas Petit, Abuse of Dominance in Technology-Enabled Markets: Established Standards Reconsidered. European Competition Journal 9, No. 1 (May 2013) p 1-65.

[74] A similar conclusion, albeit with different words, is reached by Shelansky. See Shelansky (2013) p. 1705.

economic theory to provide the service “below cost” or even “for free” or why it is necessary to “tie” the customer. If this element is disregarded it would led to the wrong conclusion that there is an abuse although we are dealing with normal characteristic of the market (Type I mistake). On the other hand, the two-sidedness of the market does not lead to immunity from competition laws. It would be wrong to assume that because a market is a two-sided market, showing some complementarities would suffice to make tying that prevents market entry legal. While this kind of hands-off approach is sometimes suggested in the literature, in practice if adopted it would lead to a serious under-enforcement of competition rules (Type II mistake).

Hence, it would be incorrect to assume that harmful tying practices of two-sided platforms can be ruled out. They can occur, for instance, if the pricing and contractual structures are such that market access is hindered. In these circumstances, a competing platform may become unprofitable irrespective of how it structures its prices and will exit the market, allowing the predatory firm to raise its prices on both sides and earn economic profits sufficient to more than recoup its earlier losses. In this case the analysis can concentrate on a comparison of incremental revenues versus incremental costs defined over packages of goods or services that serve the interests of customers on both sides of the platform.