The SSNIP Test and Zero-Pricing Strategies:

Considerations for Online Platforms

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The increasing critique on the business practices of the major online platforms in Europe is gradually leading to a rising in the number of abuse of dominance investigations and prohibition decisions. Such present and future cases revolving around the dominant position of various online platforms depend greatly on the correct definition of the relevant market. The process of the market definition with regard to online platforms requires, however, revisiting the compatibility of the current competition law tool kit, particularly in the case of the hypothetical monopolist test (HMT). Accordingly, the application of the HMT based on a small but significant non transitory increase in price (SSNIP) test of demand elasticity, will require an overhaul in order to maintain its relevance in the case of zero-pricing strategies commonly used by online platforms. In such cases the only feasible option for assessing demand elasticity for the purpose of performing the HMT entails converting the price centred analysis into a quality oriented one, namely based on a small but significant non transitory decrease in quality (SSNDQ). In the absence of such a conversion the market definition in the case of online platforms relying on zero-pricing will be performed solely based on a qualitative evaluation of the functionalities facilitated by such platforms as seen in the Google Shopping case. Although such outcome is not inherently problematic it does imply backtracking to older practices rather than advancing the development of a more future resilient legal framework and tool kit which should always be pursued.

Keywords: Online Platforms, Market Definition, Digital Economy, Market Power, Data Costs, Quality Considerations, Demand Elasticity

I. Introduction

The ever growing and evolving digital economy, with online platforms in its midst, is currently amid substantial legal developments in the context of EU competition law.[1] The growing success and prominence of platforms such as Facebook, Amazon, Google and Uber is increasingly placing online platforms in the spotlight of EU competition law practice where authorities hope to preempt anti-competitive practices before these may materialise.[2] In the context of EU competition law, much of the debate on online plat-

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1 See eg Commission, 'Staff Working Document on Online Platforms Accompanying the document Communication of Online Platforms and the Digital Single Market' (2016) COM(2016) 288 SWD, 172.

2 See eg ibid; Bundellekartelamt and Autorite de la concurrence, 'Competition law and data' (Joint Report, 10 May 2016) 11-25 <http://www.autoritedelaconcurrence.fr/doc/reportcompetitionlawanddatafinal.pdf> accessed 18 October 2018; See MonopolKommission, 'Competition policy: The challenge of digital markets' (Special Report No 68, 2015) Special Report by the Monopolies Commission pursuant to section 44(1)(4) of the Act Against Restraints on Competition <http://www.monopolkommission.de/images/PDF/SG/s68_fulltext_eng.pdf> accessed 18 October 2018; See also Directorate General for Internal Policies, 'Challenges for Competition Policy in a Digitalized Economy' (2015) IP/A/ECON/2014-12, PE 542.235; See House of Lords Select Committee on European Union, 'Online Platforms and the Digital Single Market' 10th Report of Session 2015–16 (2016) HL paper 129 <https://publications.parliament.uk/pa/ld201516/ldselect/ldeucom/129/129.pdf> accessed 1 February 2018.

forms is focused on the balance between the vast economic opportunities that they enable and the possible abuses of dominance such expedited economic growth can foster.[3] Recently, the apprehension concerning the business practices of online platforms has gone so far as to trigger discussions concerning the need for structural changes for certain platforms.[4] Although such drastic measures are a matter of policy, which entails a lengthy process, abuse of dominance investigations have already been initiated against multiple online platforms by the Commission as well as national authorities in the EU.[5] This rather hostile approach to online platforms calls for a compatibility evaluation of the current toolkit used in the context of Article 102 TFEU in order to prevent reaching erroneous findings in ongoing as well as in future cases.

Abuse of dominance cases are inherently dependent upon establishing the existence of a dominant position held by the concerned undertaking, which in the context of EU competition law,[6] requires the definition of the relevant market.[7] Delineating the relevant market in the case of online platforms will be challenging due to their two- or multisided nature enhanced by the online environment that accelerates scalability and expansion significantly. The difficulties concerning the market definition process for online platforms will be both substantive and instrumental. Substantive difficulties concern primarily the requirement to determine the number of markets that need to be defined in each case as online platforms deal with at least two separate customer groups, which may be part of a single or multiple relevant markets.[8] Instrumental difficulties concern the reduced compatibility of the legal and economic tools used for the purpose of the market definition.[9] The most prominent issue in this second category of difficulties is the application of the small but significant non transitory increase in price (SSNIP) test in the context of zero-pricing strategies,[10] which will the focus of this contribution.

The application of the price centred SSNIP test to situations where prices are absent leads to a practical impossibility. Although there is no legal obligation to make use of the SSNIP test in the context of the market definition process,[11] its growing importance in practice calls for exploring adjustment possibilities that would allow for the application of its logic even in the absence of positive prices. Current literature suggests that the in the presence of zero-pricing the SSNIP test should be modified from a price centred test into either a cost or quality centred test.[12] In this article both suggestions will be evaluated in light of their potential for application in cases concerning online platforms that rely on zero-pricing strategies.

3 Eg the recent cases against Amazon, Google and Facebook addressed by the Commission as well as by several national competition authorities.

4 See eg Scott Galloway, 'Silicon valley's tax-avoiding, job-killing, soul-sucking machine' *Esquire* (8 February 2018) <https://www.esquire.com/news-politics/a15895746/bust-big-tech-silicon-valley/> accessed 4 June 2018.

5 In the case of the Commission two infringement decisions have already been taken in the case of Google concerning Google Shopping and Android, see Commission press release IP/18/4581 <http://europa.eu/rapid/press-release_IP-18-4581_en.htm> accessed 30 July 2018; The German Competition authority is currently in an ongoing case against Facebook for a potential abuse of dominance, see press release online <https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2017/19_12_2017_Facebook.html> accessed 30 July 2018; Recently the Dutch Competition Authority (ACM) also started a market study into mobile app-stores in search for potential anti-competitive practices, see press release online <https://www.acm.nl/en/publications/acm-launches-market-study-mobile-app-stores> accessed 30 July 2018.

6 Case T-62/98 *Volkswagen v Commission* [2000] ECLI:EU:T:2000:180, para 230; Case C-7/97 *Oscar Bronner GmbH & Co KG v Mediaprint Zeitungs- und Zeitschriftenverlag GmbH & Co KG, Mediaprint Zeitungsvertriebsgesellschaft mbH & Co KG and Mediaprint Anzeigengesellschaft mbH & Co KG* [1998] ECLI:EU:C:1998:569, para 32; Case C-52/07 *Kanal 5 Ltd and TV 4 AB v Föreningen Svenska Tonsättares Internationella Musikbyrå (STIM) upa* [2008] ECLI:EU:C:2008:703, para 19.

7 Robert O'Donoghue and Jorge Padilla, *The Law and Economics of Article 102 TFEU* (2nd edn, Hart 2013) 94.

8 See eg Daniel Mandrescu, 'Applying EU competition law to online platforms: the road ahead- Part 1' (2017) 38(8) ECLR 362; Daniel Mandrescu, 'Applying EU competition law to online platforms: the road ahead- Part 2' (2017) 38(9) 420; Lapo Filistrucchi et al, 'Market Definition in Two-Sided Markets: Theory and Practice' (2014) 10(2) Journal of Competition Law & Economics 293; OECD, 'Rethinking Antitrust Tools for Multi-Sided Platforms' (2018) <http://www.oecd.org/competition/rethinking-antitrust-tools-for-multi-sided-platforms.htm> accessed 9 July 2018.

9 See eg David S Evans and Richard Schmalensee, 'The Antitrust Analysis of Multi-Sided Platform Businesses' in Roger Blair and Daniel Sokol (eds), *Oxford Handbook on International Antitrust Economics* (Oxford University Press 2014).

10 ibid and (n 8); David S Evans, 'Two-Sided Market Definition' (2009) in ABA Section of Antitrust Law, *Market Definition in Antitrust: Theory and Case Studies* <https://ssrn.com/abstract=1396751> accessed 1 May 2018.

11 Case T-699/14 *Topps Europe Ltd v Commission* [2017] EU:T:2017:2, para 82.

12 See eg John M Newman, 'Antitrust in Zero-Price Markets: Applications' (2016) 94(29) Wash U L Rev 51; John M Newman, 'Antitrust in Zero-Price Markets: Foundations' (2015) 164(149) University of Pennsylvania Law Review 150; OECD, 'Policy Roundtable - The Role and Measurement of Quality in Competition Analysis' (2013) DAF/COMP(2013) <http://www.oecd.org/competition/Quality-in-competition-analysis-2013.pdf> accessed 2 May 2018.

Therefore, the purpose of this article is to examine the difficulties that the reliance of online platforms on zero-pricing strategies may create for the process of the market definition in light of the incompatibility of such pricing strategies with the SSNIP test, and provide some suggestions on how to overcome such difficulties. In order to provide a coherent evaluation and practical guidance on this matter for future cases the article, following this introduction, is structured accordingly: first the use of zero-pricing strategies by online platforms and the implications of these strategies in the context of the market definition are shortly discussed in Section II. In Section III the role of the SSNIP test in the process of the market definition is discussed together with the expected complexities following from its application in cases concerning zero-pricing strategies. Within the scope of this section, the conversion suggestion for the SSNIP test will be evaluated in light of their suitability and feasibility for cases concerning online platforms. Section IV will shortly address the implications of zero-pricing for the future state of practice in the absence of a modified SSNIP test, followed by some concluding remarks.

II. Online Platforms and Zero-Pricing - The Inevitable Task of Defining the Relevant Market of 'Free'

The use of zero-pricing strategies by companies is neither a novel business practice nor one that is exclusive to online platforms. Similar to the concept of platforms, zero-priced goods and services have existed before the age of Internet.[13] In modern times, the use of zero-pricing has often been adopted by companies in the context of tying practices, complementary products, two- or multi sided markets and 'freemium' products or services.[14] In some cases, such use of zero-pricing strategies, mainly in tying cases, has been found to be abusive in the context of Article 102 TFEU.[15] The use of zero-pricing does not mean that undertakings make zero profits or no longer compete, it merely means that undertakings compete on other aspects and profits are made with regard to a different but related product or service.[16] However, when the need to define a market for the free product or service was discussed, it is not until recently that such markets were even considered to exist.[17] Today, there is an agreement that the provision of free goods or services does not stand in the way of establishing the existence of a relevant market for such products or services for competition law purposes.[18] Although in previous instances, the question of the market definition for zero-priced products or services was rarely addressed, in the case of online platforms it will be one that can hardly be avoided. Online platforms are currently identified and approached predominantly from an economics perspective with reference to their two- or multi sided nature.[19] This nature entails that online platforms constitute intermediaries which cater their services to two or more separate customer groups by facilitating an interaction between them, in some form of matchmaking,[20] in return for remuneration by all or part of these platform participants.[21] The success of online platforms as intermediaries is thus depended on their ability to get (and keep) all the parties of their matchmaking interactions 'on board' and internalise the indirect network effects between them.[22] Accordingly, online platforms will often implement a skewed pricing scheme reflecting the intensity of the indirect network effects between their various customer groups and their respective market power

13 David S Evans, 'The Antitrust Economics of Free' (2011) 7(1) Competition Policy International 1; Michal S Gal and Daniel L Rubinfeld, 'The Hidden Costs of Free Goods: Implications for Antitrust Enforcement' (UC Berkeley Public Law Research Paper No 2529425, 2015) <https://ssrn.com/abstract=2529425> accessed 4 April 2018.

14 ibid.

15 Prominent examples of such cases are Case T-30/89 *Hilti v Commission* [1991] ECR II-1439; Case T-201/04 *Microsoft v Commission* [2007] ECR II-3601.

16 Newman, 'Antitrust in Zero-Price Markets: Foundations' (n 12) 153-158.

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

18 ibid 81-86; Gal and Rubinfeld (n 13) 30-48; Bundeskartellamt, 'Market Power of Platforms and Networks' (Working Paper B6-113/15, 2016) 32-39 <https://bit.ly/2HKu7VY> accessed 5 February 2018.

19 See eg Bertin Martens, 'An Economic Policy Perspective on Online Platforms' (Institute for Prospective Technological Studies Digital Economy working paper 2016/05, 2016) 12 <https://ec.europa.eu/jrc/sites/jrcsh/files/JRC101501.pdf> accessed 12 April 2017; Commission staff working document on online platforms (n 2) 1-9.

20 ibid.

21 Pieter Ballon and Eric Van Heesvelde, 'ICT platforms and regulatory concerns in Europe' (2011) 35(8) Telecommunications Policy 702, 702–708.

22 OECD, 'Round table on Two-sided Markets' (2009) DAF/COMP/WD(2009)69, 3 <http://ec.europa.eu/competition/international/multilateral/2009_jun_twosided.pdf> accessed 9 July 2016.

with regard to the platform and one another.[23] In practice the skewed pricing scheme means that one of the customer groups participating on the online platform, composed very often of end consumers, will do so without any charge by the online platform since their participation is subsidised by the other customer groups of the platform.[24]

In cases where the alleged abuse of dominance may occur with respect to such a subsidized group of customers, the market definition will inevitably have to be performed with regard to the free product or service provided to them by the online platform. This is currently the case concerning the abuse of dominance investigation of Facebook in Germany where Facebook is accused of exploiting its users by violating data protection law.[25] Furthermore, when the alleged abuse of dominance occurs with regard to a paying customer group that is interlinked with a non-paying customer group, it may still be required to define the relevant market for the non-paying customer group in case of bi- or multilateral indirect network effects. Such indirect network effects are present where the value of the interaction facilitated by the online platform for its customer groups is dependent on the mutual participation of the respective customer groups interlinked by the interaction. For example if Deliveroo, were to be accused of charging excessive prices from restaurants, determining the market power of Deliveroo with regard to the restaurants would also require defining the relevant market for Deliveroo with regard to consumers. This is because the market power of Deliveroo vis-a-vis the restaurant owners using its platform depends upon the demand of consumers for Deliveroo and vice-versa. In absence of any market power with regard to either customer group (ie no demand) Deliveroo would simply not exist as its business model relies on the monetisation of the interaction between restaurants and consumers. Similar conditions apply, in principle, to any online platform which facilitates a bi- or multilateral matching interaction that matches members of a paying customers group to members of another customer group which does not pay to participate on the platform. Bi- or multilateral matching refers to situations where the facilitated interaction between customer groups on the platform exhibits bi- or multilateral positive indirect network effects indicating the existence of demand interdependency between those customer groups.[26] Such bi- or multilateral matching interactions, which allow for the participation of consumers on the platform without any monetary charge, constitute the core of most online platforms including marketplaces, travel booking platforms, meta search engines, e-learning platforms, price comparison websites, crowd funding platforms and many others.[27] Therefore, future cases concerning the abuse of dominance by online platforms will very likely require defining the relevant market with regard to the customer group(s) of the platform which participate on the platform without paying any monetary fee.

The methodology involved in the current market definition process relies however greatly on the SSNIP test, which is price oriented.[28] The dependency on the use of positive pricing therefore makes the SSNIP test unsuitable for cases concerning zero-priced products or services as is commonly the case with online platforms. Accordingly, it is important to examine how this friction between zero-pricing and the SSNIP test may interfere with the market definition process and whether the SSNIP test can be adapted in a manner that can compensate for its current shortcomings.

III. Market Definition and the SSNIP Test

The definition of the relevant market starts with defining the relevant product market which includes all the products or services that compete with those

23 Julian Wright, 'One-Sided Logic in Two-Sided Markets'(AEI-Brookings Joint Center Working Paper No 03-10, 2003) <https://ssrn.com/abstract=459362>; OECD, 'Round table on Two-Sided Markets' (n 22) 19-32.

24 See eg a short overview of some of the prominent online platforms in the US and their pricing choices in David S. Evans, 'Multisided Platforms, Dynamic Competition, and the Assessment of Market Power for Internet-Based Firms' (University of Chicago Coase-Sandor Institute for Law & Economics Research Paper No 753, 2016) <https://ssrn.com/abstract=2746095> accessed 9 July 2016.

25 See (n 5).

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

27 ibid 470.

28 The development, application and reliance on the hypothetical monopolist test (HTM) that represents a key aspect of the market definition process is entirely dependent upon predictable effects on customer demand in light of price changes by the concerned undertaking. Essentially, beyond the traditional forms of qualitative forms of evidence the majority of the quantitative tools used for the purpose of market definition are price-cantered.

offered by the concerned undertaking.[29] The process is then followed by the definition of the relevant geographic market. Due to the fact the both aspects of the market definition are performed similarly,[30] the following addresses only the relevant product market, but the findings are equally applicable to the relevant geographic market. The level of competition between the product or service offered by the concerned undertaking and those of its closest competitions is established primarily based on demand – side substitutability.[31] This is because the greatest competitive constraint on the behaviour of undertakings comes from customers that are willing to switch to substitutes offered by competitors in the event of a price increase or other undesired practices.[32] The result of the demand side substitution assessment indicates the closest competing products or services to those offered by the concerned undertaking. Accordingly, the undertakings that offer these competing products or services, are considered to be in the relevant product market as the concerned undertaking.[33]

Demand side substitution can be assessed based on direct and indirect evidence of substitution. Direct evidence of substitution refers to previously observed behaviour indicating substitution patterns with regard to the product or service offered by the concerned undertaking and those offered by its competitors.[34] When direct evidence is not available, not sufficient or not helpful, competition authorities can make use of indirect evidence of substitution. Indirect evidence of substitution includes quantitative evidence, such as price elasticity estimates, as well as qualitative evidence including the inspection of product or service characteristics and intended use.[35] From a legal point of view there is no hierarchy with regard to qualitative or quantitative evidence despite that the latter is often considered more accurate.[36] Consequently, there is a growing opinion that qualitative evidence should serve as a second check for the findings of quantitative evidence rather than being considered equal in evidentiary value.[37]

In the context of indirect quantitative evidence, the need for an accurate economic tool for determining substitution resulted in the reliance on the hypothetical monopolist test (HMT). The test, originally developed by US competition authorities in the context of merger evaluations, has gained substantial acknowledgement worldwide including its adoption by the Commission and EU Courts.[38] In the context of the HMT, the defined market in each case contains the product or set of products for which a hypothetical monopolist could increase its prices in a profitable manner on a long lasting basis. The test entails three main steps and is performed based on quantitative and qualitative evidence. In the first step the candidate set of products or services controlled by the hypothetical monopolist is established. In the context of an Article 102 TFEU case such candidate set of products or services normally entails those products or services which are the subject of the alleged abuse of dominance.[39] In the second step, demand-side substitutability is assessed based on a hypothetical increase in the price of the candidate products or services set. Finally, in the third step, the possible effect of supply-side substitution is also brought into the picture. In practice, however, this aspect has often played a rather limited role due to fact that establishing the existence of effective supply side constraints depends on meeting several strict criteria.[40] The test may require several iterations, namely if the hypothetical monopolist is not capable to raise its prices profitably the candidate market is enlarged so as to include the identified substitutable products or services and the test is per-

29 See OECD Roundtable On Market Definition (11 October 2012) DAF/COMP(2012)19.

30 O'Donoghue and Padilla (n 7) 125.

31 Commission Notice on the definition of the relevant market for the purposes of Community competition law [1997] OJ C 372/5, paras 13, 14, 20; OECD Roundtable of market definition, Note by the Delegation of the European Union 31 May 2012 (DAF/COMP/WD(2012)28), para 11. Supply substitution will only play a role to the extent its effects on the behaviour of the concerned undertaking are likely to be similar to those of demand substitution, which rarely happens in practice.

32 ibid Commission Notice on the definition of the relevant market, para 13.

33 ibid paras 13, 14, 20.

34 O'Donoghue and Padilla (n 7) 101.

35 ibid; Vivien Rose and David Bailey (eds), *Bellamy and Child: European Union Law of Competition* (7th edn, Oxford 2013) 231-234.

36 O'Donoghue and Padilla (n 7) 110.

37 ibid.

38 See the history of the SSNIP in eg OECD, 'Roundtable on Market Definition - background note by the Secretariat' (2012) DAF/COMP(2012)13.

39 This can differ however if the investigated abuse of dominance concerns multiple separate but related markets such as in the case of tying, bundling, leveraging or margin squeeze.

40 See eg O'Donoghue and Padilla (n 7) 102-106; Gunnar Niels, Helen Jenkins and James Kavanagh, *Economics for Competition Lawyers* (2nd edn, Oxford Press Publishing 2016) 56-62.

formed repeatedly until the market worth monopolising is found (ie demand-side substitutability is no longer present). In the framework of the HMT, which may be performed based on various quantitative approaches,[41] the SSNIP test constitutes perhaps the main tool for testing demand-side substitutability.[42] The SSNIP assess whether a small but significant non-transitory increase in price of 5-10% by the concerned undertaking could be implemented in a profitable manner. Accordingly, the SSNIP test essentially constitutes a direct form of applying the thought experiment behind the HMT, which explains the preference for this test in practice. Given the preference for the SSNIP test in practice one may thus say that it constitutes the main source of indirect quantitative evidence in the process of the market definition and therefore influences greatly the outcome of such process, particularly where direct evidence is not available, sufficient or suitable for this purpose.

The application of the SSNIP test in the case of two-sided markets, however, has been one of the main subjects of debate concerning the definition of the relevant market in such circumstances. Currently, there appears to be no agreement on whether of the test should be applied to the entire price structure of the platform or per side and whether the test should take into account the possibility of price structure modifications by the concerned undertaking.[43] In the case of online platforms this difficulty seems to be accentuated by a preceding lack of clarity concerning the identification of the candidate set of products or services.[44] Namely it is often difficult to establish whether the interaction among various separate customer groups facilitated by the online platform constitutes a single product or multiple ones for which the HMT should be should be performed. Although these difficulties are also capable of interfering with the market definition process they are not insurmountable nor do they always arise. The SSNIP test can in principle be applied in various forms in practice after which the relevance of the outcomes can be assessed in light of other forms of evidence. Furthermore the difficulty of identifying the candidate product or service in each case is not inherent in each analysis involving online platforms and will nevertheless be eventually overcome through practical experience.

By contrast, the use of zero-pricing strategies by online platforms will inevitably eliminate any evidentiary value resulting from the application of the SSNIP since such strategy removes the core aspect of the test itself, namely the positive price charged for the product or service offered by the concerned undertaking. The SSNIP test simulates a theoretical nominal increase in the price of the product or service provided by the concerned undertaking. This exercise is however mathematically impossible when the price of the product or service is zero: an increase of 5-10% of zero is still zero. The increase of a price of zero to any positive price is no longer a nominal one but a different thing altogether, as studies show that zero-pricing has a distinct impact on the customers' decision making process. Consequently, a theoretical increase in price as is intended in the context of a SSNIP test cannot be performed when defining the market for a zero-priced product or service.[45] The incompatibility between the price centred SSNIP and zero-pricing is not only a mathematical one but also a logical one. Online platforms that do not charge certain customer groups in return for their participation on the platform are very unlikely to switch from zero-pricing to positive pricing regardless of their market power.[46] Thus, posing the underlying question of the SSNIP test (or the HMT) even as a thought experiment is not entirely sensible since the theoretic scenario depicted, namely the raise of price cannot or at least will not occur in practice with respect to those customers. This outcome is rather problematic as the SSNIP test is the main source of indirect quantitative evidence of substitution for the purpose of the market definition. Consequently, the inability to relay on the SSNIP test, or on any price cantered quantitative tools for this mat-

41 See eg Malcolm B Coate and Jeffrey H Fischer, 'A Practical Guide to the Hypothetical Monopolist Test for Market Definition' (2008) 4(4) Journal of Competition Law & Economics 1031.

42 O'Donoghue and Padilla (n 7) 109.

43 Evans and Schmalensee (n 9) 21-23; Filistrucchi et al (n 8) 329-339.

44 See eg OECD, 'Rethinking Antitrust Tools' (n 8).

45 Newman, 'Antitrust in Zero-Price Markets: Applications' (n 12) 65-66; Evans, 'The Antitrust Economics of Free' (n 13) 81-86; Gal and Rubinfield (n 13) 32-35.

46 See eg *Microsoft/Skype* (Case COMP/M.6281) Commission Decision of 7 November 2011, paras 13, 76, 121. In the context of the merger it was observed that despite the prominent position of Skype in the relevant markets for consumer communication services, over 75% of its customers would switch if it started charging them for the services that were regularly provided for free; See also Case M.7217 *Facebook/WhatsApp Commission* decision of 3 October 2014, paras 90-91 where it was noted that zero-pricing is an industry standard.

ter, means that the relevant market may often be defined to a great deal based on qualitative indirect evidence. In order avoid this outcome and overcome the mathematical and logical incompatibility between the SSNIP test and zero-pricing strategies, alternative approaches for the SSNIP test have been developed which rely on a nominal change in quality or cost.[47]

Although both approaches are theoretically sound from an economic point of view, the feasibility of their application in practice may differ significantly due to their respective practical complications. Therefore it is important consider and evaluate these proposals for modification in the context of online platforms relying on zero-pricing strategies in light of the legal and business reality of such actors in order to avoid findings and suggestions which may have solely theoretical relevance.

1. Testing Substitution Based on Information and Attention Costs - An Attractive Yet Unworkable Alternative

Modifying the price oriented SSNIP into a cost oriented test, would mean that the purpose of the test would be to assess whether the concerned undertaking is capable of imposing a small but significant non-transitory increase in cost for customers in a profitable manner (SSNIC).[48] In the context of such a test, the costs for customers in the case of zero-priced markets are divided into information and attention costs.[49] Information costs refer to the amount of data that the customer needs to provide in order to make use of the free product or service.[50] Attention costs refer to the exposure of customers to advertisements during their use of the zero-priced product or service.[51] Both types of costs can be identified in the case of zero-priced products or services offered by online platforms.[52] Although these costs depict the existence of a certain form of trade or exchange that resembles that of monetary exchanges,[53] they are not fully compatible as a yardstick for a demand-side substitutability analysis in the case of online platforms.

Asking customers, particularly consumers, to evaluate their behaviour in light of theoretical increases in price is a wholly different matter than asking them to do the same with regard to an increase in information or attention costs. In contrast to prices, information or attention costs are far less comprehensible for consumers, and so their value among consumers may differ to great extent. Accordingly, theoretical increases in such costs are difficult to evaluate in an abstract manner. This may require that consumers must first experience such increase in order to make a decision on whether they will switch over to a competing undertaking.

The obscure nature of information and attention costs will also pose a challenge when the theoretical degree of increase in either cost will ultimately have to be translated in practice in a more specific manner. Both information and attention costs can come in a variety of shapes and forms, which can also be combined. Information costs can translate into sensitive and less sensitive types of personal data and the combination thereof. Attention costs can be translated into the number of ads displayed, the length of display, size of each ad, the frequency of their appearance as well a combination thereof. Although these elements represent a form of cost, they are different kinds of cost and there is no indication with regard to the kind of cost or combination thereof that is particularly relevant for the purpose of a SSNIC in the way the prices are relevant for the purpose of a SSNIP. Accordingly, if a SSNIC is to be adopted in practice, a methodology must first be developed with regard to establishing the relevant cost in each case. In the absence of such a methodology, which determines the relevant cost in each case, there is no possibility to test the theoretical increase of such cost in a statistical manner, as there will be no set reference point. Furthermore, the meaning of a nominal increase of information or attention costs is rather challenging. On the one hand, it is uncertain whether a 5-10%

47 OECD, 'Rethinking Antitrust Tools' (n 8).

48 Newman, 'Antitrust in Zero-Price Markets: Applications' (n 12) 66-70.

49 Newman, 'Antitrust in Zero-Price Markets: Foundations' (n 12) 165-167. Newman, 'Antitrust in Zero-Price Markets: Applications' (n 12) 67;

50 Newman, 'Antitrust in Zero-Price Markets: Foundations' (n 12) 166-169.

51 ibid 169.

52 Many online platforms expose customers to unsolicited display ads that qualify in this regard as attention costs. Similarly, numerous online platforms require a form of registration and acceptance of cookies prior to allowing customers to access the platform, which can qualify as information costs.

53 Newman, 'Antitrust in Zero-Price Markets: Foundations' (n 12) 163-174.

change is as important for consumers as in the case of a similar price increase, particularly when taking into account the 'free effect' of zero-prices that has been found to lead to overconsumption.[54] On the other hand some types of (personal) information increases, although minimal in terms of quantity, may be considered unreasonable thus giving the, possibly mistaken, impression that an increase of data by an online platform cannot be done in a profitable manner. For example job seekers may be less averse to providing their entire work experience history compared to stating the reasons behind their (perhaps involuntary) unemployment and transfer of work placements.

On top of these considerations, the use of information and attention costs requires looking into a situation that may not be entirely realistic in the case of the online economy in general, nor in the case of online platforms in particular. This is because the SSNIC test simulates an increase of cost with the sole purpose of maximising the profits of the concerned undertaking, as is the case of the SSNIP test.[55] In practice however, increases of information costs in the case of online platforms are often linked to product or service improvements. Similarly, an increase of attention costs may be moderated by the increased relevance of advertisements, which may entail a certain added value for consumers.[56] Moreover, while an increase in attention costs can occur in practice it is not a suitable benchmark because attention costs, meaning exposure to advertisements, are not an inherent aspect of the business models of all online platforms. While some online platforms relay on advertisements as a primary source of revenue, other see it as a secondary source of revenue and some do not use it at all.[57] Consequently a hypothetical increase in attention costs, even when it is measurable, will not be an adequate test for demand-side substitution with respect to all online platforms.

Finally, theorising about an increase in information costs for the sole purpose of maximising profit without any product or service improvement may also not be sensible due to the legal framework covering such a situation. Under EU law the processing of personal data by online platforms falls under the scope of the General Data Protection Regulation (GDPR).[58] The GDPR requires, in Article 5, that personal data is collected for specific, explicit and legitimate purposes and only to the extent that the data is truly necessary for such purposes. Following the collection of personal data, the processing should be done lawfully, fairly and in a transparent manner. In light of these requirements it appears that an increase in information costs based on the SSNIC logic is rather problematic. The data that a platform requests from its users (data subjects in the sense of the GDPR) must serve a specific purpose that is communicated to such users. Accordingly increasing the amount of data required from users for the purpose of profit maximising (without any intention to improve the service provided by the platform) would entail disclosing such purpose to them so as not to breach Article 5 of the GDPR. It is evident that in practice undertakings, even dominant ones, would be reluctant to take such steps in order to get access to more user data and users may be less willing to accept such surcharge when it is posed in such a transparent manner. Furthermore, the same article also states that the collection of personal data should be limited to the absolute minimum necessary for the purposes for which it is collected. Therefore, an 'overcharge' of data for a given stated purpose, including service development, is essentially prohibited by the GDPR in light of its data minimisation objective.[59] Moreover, using personal data that was collected for the purpose of product development in a manner that does not relate to achieving such progress is equally not allowed unless specifically communicated to users, which in principle must first express their consent for such use.[60] In light of such legal framework, simulating an increase in informa-

54 On the effect of zero-pricing see Kristina Shampanier, Nina Mazar and Dan Ariely, 'Zero as a Special Price: The True Value of Free Products' (2007) 26(6) Marketing Science 742.

55 See eg Bundellekartelamt and Autorite de la concurrence, 'Competition law and data' (n 2) 11-25; See also Andres V Lerner, 'The Role of 'Big Data' in Online Platform Competition' (2014) 7-19 --lt--http://ssrn.com/abstract=2482780> accessed 7 April 2018.

56 See eg D S Evans, 'The Economics of the Online Advertising Industry' (2008) 7(3) Review of Network Economics 359.

57 Online platforms, which facilitate monetary transactions, will usually treat advertisements as a secondary or optional source of revenues. For example marketplaces and booking platforms rely primarily on the transaction and membership fee by the merchants participating on the platform and advertisement is usually limited to products or services offered on the platform itself in order to increase the number of transactions.

58 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) OJ L 119/1 ('GDPR').

59 See GDPR, arts 5(1)(c), 25 and para 125 of the Preamble.

60 GDPR, art 6.

tion costs in the form of personal data seems rather futile given that the entire exercise may concern a situation that is unnatural or illegal and thus cannot occur due to other reasons than the lack of market power. In case the increase in information costs concerns primarily non-personal data the GDPR would not apply, however, users may be rather ambivalent to such 'overcharges' thus possibly resulting in erroneous findings of narrow markets that are worth monopolising.

In light of the above, it can be said that although the economic logic behind the SSNIC test appears sound in theory, it is unsuitable for application in cases concerning online platforms in practice. The increase in attention costs is very difficult to quantify and will not be a suitable for evaluating the market power of an online platform where these costs do not constitute its only or at least main source of revenue. Similarly, the use of information costs entails a myriad of complexities with regard to the quantification thereof, which are complemented by the legal hurdles of the newly adopted GDPR that significantly hampers the collection and processing of personal data solely for profit maximising purposes. Consequently, a conversion of the SSNIP into a SSNIC cannot be recommended as it will require making highly complex decisions and adaptations with no real prospect of being as reliable as the SSNIP in non-zero-priced markets.

By contrast, the suggestion to modify the SSNIP test into a quality-centred test, as discussed below, may constitute a feasible option. Although such a conversion also entails overcoming multiple practical challenges, it constitutes a more suitable test for general application. The benchmark of quality can be applied to any possible online platform and the relation between quality and substitution has long been recognized in competition law practice. Furthermore, unlike in the case of information costs, the current legal framework applicable to online platforms does not stand directly in the way of theorising changes in the quality of a product or a service.

2. Quality as a Benchmark for Testing Substitution – The Intuitive Choice That May Deliver

Testing demand substitutability based on quality entails some similar practical complexities as in the case of a cost-based test despite the soundness of its economic foundation. In the context of a quality-oriented test, the core question will concern the effect of a small but significant non transitory decrease in quality (SSNDQ), which is comparable to an increase of price from an economic perspective.[61] The quality of a product or service has long been recognized as one of the main criteria based on which undertakings compete with each other in the context of digital markets, particularly in light of zero-pricing strategies.[62] This is to be expected since, in the absence of positive prices, consumers will inevitably make their decision to use a product or service based on some form of quality considerations. That being said, it is also true that consumers will find it more difficult to assess quality instead of prices.[63] Thus, using quality as a benchmark for a quantitative assessment of demand substitutability in the context of online platforms remains problematic. Similar to the case of information or attention costs, choosing the relevant quality for the purpose of the assessment is not as straightforward as choosing prices in the case of the SSNIP. Quality is a general term that can encompass a wide variety of criteria.[64] In the case of online platforms, the criteria covered may include privacy, user friendliness, security and others.[65] Given that different kinds of online platforms will compete based on different quality parameters, the relevant quality that

61 See OECD Directorate for Financial and Enterprise Affairs Competition Committee, 'The Role and Measurement of Quality in Competition Analysis' (2013) DAF/COMP (2013)17.

62 COMP/M.6281 *Microsoft/Skype* (n 46) para 81.

63 OECD, 'The Role and Measurement of Quality' (n 61).

64 ibid 12-21. Certain methodologies have already been developed by economists in order to select the qualities that are most appreciated by consumers.

65 See eg Commission, 'Staff Working Document Accompanying the document Report from the Commission to the Council and the European Parliament Final report on the E-commerce Sector Inquiry' (2017) COM(2017) 229 final, SWD(2017) 154 final, 40-50. In the context of the sector inquiry the Commission observed that the online marketplaces and price comparison site compete based on different features of quality. In the context of mergers in the financial payment industry between online and mobile payment platforms, the matter of user interface, security of transaction and speed of transaction were considered key aspects of competition see *Telefónica UK/Vodafone UK/Everything Everywhere/JV* (Case COMP/M.6314)Commission Decision of 4 September 2012, paras 127-149; *Telefonica/Caixabank/Banco Santander/JV* (Case COMP/M.6956) Commission Decision of 14 August 2013, paras 34- 41. In Case M.7217 *Facebook/WhatsApp* decision of 3 October 2014, paras 87, 102 and *Microsoft/LinkedIn* (Case M.8124) Commission Decision of 6 December 2016, paras 349-352 privacy was a quality that was an important quality for competition in the respective markets of the merging undertakings.

needs to be the subject of the SSNDQ test will likely differ from case to case. Therefore, as in the case of a SSNIC, a methodology must first be developed with regard to establishing the quality that should be tested in each case. When dealing with a two- or multi-sided online platform, it must also be considered whether the quality that is being tested will solely concern the zero-priced side of the platform or the other sides as well. For example, reducing the user friendliness of an ordering system of a marketplace for consumers may also result in a decrease in the quality of the order system for the sellers participating in the online marketplace. Such an application would be incorrect if the purpose of the SSNDQ is to test the degree of demand side-substitution of consumers alone. In any event, however, the test should take into account the interrelation between the various sides of the platform when considering the profitability of a certain quality change.[66] Accordingly, when simulating a decrease of quality on one side of the platform that leads to a loss demand (customer switch) on that side of the platform, it is important to consider what is the consequence of such reduced demand with respect to the other side(s) of the platform. In other words, testing the profitability of the quality decrease by the platform should take into account the relevance of the indirect network effects between the various sides of the concerned platform.[67]

Furthermore, the meaning of a nominal increase or decrease of quality in such cases must also be defined and translated into practice while taking into account the effect that zero-pricing has on consumers. It must be established whether a 5-10% decrease is suitable in the case of quality and how such a change can be measured in practice.[68] To the extent that the required decrease is higher than 5-10%, it should be considered from a policy perspective whether the results of such an assessment are comparable to those of the SSNIP test when applied to positive prices. Additionally, it should be noted that in many cases in the digital economy, it is the development of a certain product or service quality that is very costly rather than its provision to the consumers once it has been developed.[69] Accordingly, in such cases testing a hypothetical decrease of quality might not be representative of the true situation in practice, as an undertaking will have no incentive to reduce quality if such a reduction will not result in a significant increase of revenue.[70] Moreover, when dealing with the quality of a certain online platform, it is important to keep in mind that some aspects thereof are also dependent upon the customer groups present on the platform. This remains true even when the consumer is not entirely aware of the source of quality or the lack thereof. For example, an online marketplace may be in charge of curating the variety of products offered however the price, shipment costs, quality of goods and after sales services may also depend substantially on the sellers. Thus when choosing a quality that is tested in the context of a SSNDQ, the role of such shared accountability for quality between the online platform and its participants must be taken into account. In this regard the regulatory framework that applies to the concerned platform in a given case should be considered as the obligations and liabilities of online platforms may also determine the scope of qualities that can be tested. Testing a degradation of qualities that fall more within the legal ambit of the platform participants rather than that of the platform itself would be conceptually erroneous.

In this regard it is worth noting that the term online platform, does not constitute a category of undertakings nor does it refer to a specific sector of the economy. Rather, online platforms can be best seen as the undercarriage upon which an undertaking can be developed. The undertaking that eventually emerges on the market, from both a legal and commercial perspective, depends on the value that the platform intends to create for its various customer groups and the governance of such a platform. Currently there is no platform-specific regulation,[71] however online platforms will generally fall under the

66 Evans (n 24) 27.

67 OECD, 'Rethinking Antitrust Tools for Multi-Sided Platforms' (n 8) 10-20.

68 See OECD, 'The Role and Measurement of Quality' (n 61) 15. A decrease of quality that would impact consumer behavior may be as high as 25% in the context of this test.

69 For example, the difference between setting up an online marketplace website and the costs of maintaining it is almost tenfold. See a rough calculation of the costs online at Jon Jordan, 'How Much Does an eCommerce Website Cost in 2018?' (*Atlantic BT*, 9 April 2018) <https://www.atlanticbt.com/blog/how-much-does-ecommerce-website-cost/> accessed 1 November 2018.

70 Newman, 'Antitrust in Zero-Price Markets: Applications' (n 12) 70.

71 The newest development towards such a legal framework is the Commission's proposal for a Regulation of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services 2018/0112 (COD).

scope of various EU and national rules in the areas of competition, consumer protection, personal data protection and free movement.[72] The applicability of this general legal framework is unfortunately not always consistent, as it was not designed in a manner that foresees the contractual realities of the platform economy.[73] Consequently, establishing the legal framework for an online platform for the purpose of determining the qualities that may be tested in the context of a SSNDQ is something that will need to be done on a case-by-case basis. In this respect, the recent case of *Uber* demonstrates the importance of performing an inquiry into the business model and governance of the online platform. Although Uber maintained that it is an intermediary that facilitates the interaction between consumers and self-employed drivers, its platform governance led to a different legal qualification, namely one that resembles an employer.[74] The importance of such a legal qualification of a platform cannot be overstated in the context of a SSNDQ and a competition law analysis as a whole. The legal qualification of a platform determines namely what kind of intermediary it constitutes, if at all. In the case of Uber the spectrum of legal qualifications entails at least three options: an information society service provider as claimed by Uber; an intermediary in the field of transport as indicated by the CJEU;[75] and an employer in the field of transport as found by national courts.[76] Each of the three qualifications entails a different legal framework and consequently a potentially different scope of qualities that can be tested for the purpose of a SSNDQ. In the case of the legal qualification of Uber as an employer, Uber is in fact no longer considered a two-sided platform, which means that replacing the SSNIP for the SSNDQ is no longer needed. If Uber is no longer a two-sided platform, demand-side substitution of consumers for Uber can be tested based on the positive prices they are charged for the rides, as the drivers are no longer a separate customer group of Uber but a part of it.[77]

In light of the above, it can be observed that the SSNDQ is sound from a substantive perspective, however, its application requires the development of an analytical and preferably also legal framework that regulate the selection of the relevant qualities to be tested in each case. In the absence of such a framework, the extensive modifications required to transform the SSNIP into a quantitative test suitable for zero-priced markets may add a layer of legal uncertainty to the existing criticism concerning the current SSNIP test.[78] Despite the identified hurdles in the process of adapting the SSNIP test to zero priced markets, the realisation of the SSNDQ may be a welcome step in the journey of adapting the current competition law practice to the reality online markets. In this regard it is worth noting that the importance of the abovementioned exceeds the mater of the SSNIP test alone. The complexities concerning zero-pricing depicted above can also be expected when considering other quantitative tools used for the purpose of defining the relevant market such as price correlations, co-integration analysis and critical loss analysis, since these are equally price-oriented tools.[79] Thus while the SSNIP test provides a straightforward example of the inevitable complexities resulting from the use of zero-pricing by online platforms for current practice, their implications may concern the entire quantitative evidence tool kit. Therefore, it is important that this conversation of the SSNIP test into a SSNDQ is pursued as a first stage to what may become the conversion of the entire quantitative tool kit in the long run so as to ensure compatibility with cases concerning zero-pricing.

The fact that the current quantitative tools may not be suitable does not mean, however, that the market definition process cannot be performed in the case of zero-priced markets as such. Rather, this challenging situation highlights the fact that zero-priced markets, particularly in case of online platforms, will for the time being constitute cases where price oriented quantitative tests such as the SSNIP cannot be

72 Aneta Wiewiórowska-Domagalska, 'Online Platforms: How to Adapt Regulatory Framework to the Digital Age?' (Briefing for the IMCO Committee of the European Parliament, 2017) 3-4 <http://www.europarl.europa.eu/RegData/etudes/BRIE/2017/607323/IPOL_BRI(2017)607323_EN.pdf> accessed 19 May 2018.

73 ibid.

74 See Case C-434/15 *Asociación Profesional Élite Taxi V Uber Systems Spain SL* [2017] ECLI:EU:C:2017:364, AG Opinion, paras 52-54.

75 Case C-434/15 *Asociación Profesional Élite Taxi V Uber Systems Spain SL* [2017] ECLI:EU:C:2017:981, paras 40-44.

76 See UK Employment Tribunal Appeal No UKEAT/0056/17/DA *Uber BV v Mr Y Salam and Others*.

77 In the context of an art 102 TFEU case it also means that establishing of dominance only requires looking at the market from the perspective of the consumers instead of also looking at the market power Uber has with regard to taxi drivers.

78 O'Donoghue and Padilla (n 7) 112-116; Rose and Bailey (n 35) 240-242.

79 Niels, Jenkins and Kavanagh (n 40) 35-82.

applied due to an evident absence of suitable data. Accordingly, in such cases the market definition process will have to be based primarily on non-quantitative evidence sources as it has been prior to the introduction of such tools. Although situation confirms that current practice is sufficiently flexible so as to be applied even in rather novel scenarios, it does not means that such partial compatibility is a desired or constitutes a sustainable outcome for long term purposes.

IV. Back to (Some) Basics and Plans for the Future - A Temporary SSNIP Free Market Definition

The definition of the relevant product market has initially been performed by drawing a comparison of the price, characteristics and functionalities of the product or service concerned.[80] In Article 102 TFEU cases, such an approach to the definition of the relevant product market even appears to prevail.[81] The seminal case of *United Brands* is a textbook example wherein the market definition was executed predominantly according to qualitative evidence.[82] Following the introduction of the Commission Notice on the Relevant Market in 1997, the definition of the relevant market often resulted from a combination of quantitative evidence as well as non-quantitative sources of evidence depending on the amount of available data.[83] According to some scholars, this combined approach will eventually lead to a shift in favour of the quantitative evidence sources, leaving non-quantitative evidence to serve as a secondary check.[84] It is important to note that even if one were to be convinced of such a development in practice, the increased evidentiary value and use of quantitative evidence would only be possible in situations where sufficient data is available for this purpose. When that is not the case, non-quantitative evidence will always provide the most important guidance with regard to the market definition.[85] The reliance on non-quantitative evidence in light of the absence of price data can be observed in the case law of the EU Courts as well as the decisional practice of the Commission.[86] In the context of the recent mergers dealing with free products or services in digital markets the discussion around the relevant market was based entirely on qualitative considerations regarding the various functionalities and uses of the concerned products or services.

In the merger between Microsoft and Skype the Commission noted that competition among consumer communication services (and thus substitutability) initially depends on the offering of several key functionalities in a package that is provided without cost to consumers.[87] The success of the players, who fulfil these criteria and are accordingly within this relevant market, is then depended on their ability to innovate and improve such services or products.[88] In the merger between Facebook and WhatsApp the Commission found that the markets for consumer communication and social networking services were prone to offerings of free services.[89] The competitive relation between Facebook and WhatsApp was therefore assessed in light of the functionalities and size of the networks the two undertaking were offering, as these aspects were considered to be the most important for consumer choice in the absence of prices.[90] According to the Commission the two undertakings were not close competitors in the market for consumer communication services nor in the market for social networking services due the differences in the functionalities of the WhatsApp and the Facebook messaging applications.[91] This functionality focused approach was also followed in a comparable manner in the merger between Microsoft and LinkedIn when the relevant product market for professional social networks, that are also offered free of monetary charge, was defined.[92] Simi-

80 Commission Notice on the definition of the relevant market (n 31) para 7; Rose and Bailey (n 35) 231.

81 O'Donoghue and Padilla (n 7) 119.

82 Case 27/76 *United Brands v Commission* [1978] ECLI:EU:C:1978:22.

83 Rose and Bailey (n 35) 232-233.

84 O'Donoghue and Padilla (n 7) 120.

85 Rose and Bailey (n 35) 233.

86 See cases where the product or service at hand concerned one which was offered for free eg Case M.7217 *Facebook/WhatsApp* decision of 3 October 2014; Case M.8124 *Microsoft/LinkedIn* (n 65); Case T-201/04 *Microsoft v Commission* [2007] ECLI:EU:T:2007:289.

87 COMP/M.6281 *Microsoft/Skype* (n 46) paras 17-19, 21-26, 75-77.

88 ibid paras 81-84.

89 Case M.7217 *Facebook/WhatsApp* decision of 3 October 2014, paras 47, 90-92.

90 ibid paras 46-53, 86.

91 ibid paras 101-107, 153-158.

92 Case M.8124 *Microsoft/LinkedIn* (n 65) paras 87, 95-117.

larly, in the tying case concerning Microsoft no mention was made with regard to that use of the SSNIP test to define the relevant market for media players which consisted of both free and priced media players (basic and premium versions). The definition of the relevant market for media players in that case was equally focused on the functionalities that were included in both free and paid versions of the media players offered by Microsoft and its competitors.[93] Finally in the recent case of Google Shopping the Commission explicitly chose to not use the SSNIP test when defining the relevant markets for general search services and comparison-shopping services because such services are provided for consumers without charge.[94]

The definition of the relevant market for zero-priced products or services provided by online platforms in future cases will inevitably constitute analogous situations where the data needed for quantitative tests is not adequate for their application. This challenging situation that can be expected in the case of online platforms is, however, not of such magnitude so as to completely obstruct the definition of the relevant market as is showed by the previously mentioned cases. This is due to the fact that there is no legal obligation to rely on quantitative tools such as the SSNIP test, nor do these quantitative tools possess a higher evidentiary value compared to qualitative evidence.[95] Accordingly the process of the market definition can be performed in future cases even in the absence of a workable SSNIP test. However, this final outcome, wherein the most basic tools of competition law practice are the most suitable for the market definition of one of the most recent and innovative business practices, is admittedly rather ironic. Nevertheless, it does not mean that the reliance on non-price qualitative evidence will lead to unsatisfactory or erroneous findings in practice, nor should this be considered as an indication that the current practice has reached an impasse. Instead, this situation should be treated as a call to further the proficiency of the existing competition law framework and tools in a more future resilient manner. Therefore, it is important that the possibility to define the relevant market without the use of a working SSNIP alternative remains the exception rather than the rule in future practice when dealing with zero-pricing. Any other attitude towards this current state of practice would imply a return to the pre-SSNIP practice signifying a deterioration of current practice rather than a necessary side step in the process of its development. Therefore, even if the market definition process is not impeded as such in the case of zero-pricing, the conversion of the SSNIP test into a SSNDQ should be pursued for the benefit of competition law practice as a whole.

The necessity to convert the SSNIP test into a quality centred SSNDQ in order to allow for the application of the HMT in a quantitative manner in future cases involving zero-pricing may indeed eventually lead to a broader acceptance and understanding of non-price competition. The path to a successful conversion will require a better comprehension of quality based competition which is becoming increasingly important in technology markets where competition for end-consumers is predominantly determined in terms of functionalities and the quality thereof.[96] In this regard a better understanding of non-price competition is not only important for defining markets and evaluating market power but also, and perhaps more importantly, for assessing the anti-competitive nature or effects of practices which are investigated for constituting potential infringements of Article 101 or 102 TFEU. If competition in certain situations does not occur based on price it implies that also a potential increase or decrease of consumer welfare in the context of such investigations will equally relate to the non-price aspects of the service or product offered to consumers. Therefore while the conversion of the SSNIP test can serve as a specific element of adapting current practice to the realities of online markets, the process towards achieving this goal, if pursued, will undoubtedly have greater significance for practice than the creation of a quantitative test for assessing substitution in situation concerning zero-pricing alone.

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93 *Microsoft* (Case COMP/C-3/37.792) Commission Decision of 24 March 2004, paras 107-145, 411-424.

94 *Google Search (Shopping)* (Case AT.39740) Commission Decision of 27 June 2017, para 245.

95 Case T-342/07 *Ryanair v Commission* [2010] EU:T:2010:280, para 136; Case T-175/12 *Deutsche Börse v Commission* [2015] EU:T:2015:148, para 133; Case T-699/14 *Topps Europe Ltd v Commission* [2017] EU:T:2017:2, para 82.

96 End consumers are usually the customer group of the platform which is considered to be more price sensitive, meaning that in the creating of the skewed pricing scheme that platforms almost always have such users will pay nothing or far less than the other customer groups participating on the platform. An exception to this model can be platforms which make use of the freemium / premium membership pricing schemes such as LinkedIn where some degree of price competition would be possible also on the side of the end consumer.

V. Conclusion

The application of the SSNIP test in future cases concerning online platforms will undoubtedly require overcoming multiple substantive as well as practical challenges. The two- or multisided nature of online platforms will challenge the manner in which the SSNIP is applied due to the fact that the market definition for an online platform may result in multiple markets. When that is the case the application of the SSNIP, even in cases where prices are positive, will have to take into account the indirect network effects and demand interdependency between such markets when assessing the profitability of a theoretical increase in price.

In cases where the market definition concerns a product or service which is provided by the online platform without monetary charge, thus for a price of zero, the application of the SSNIP test is no longer possible from a substantive point of view. The absence of a positive price in such cases will prevent its application both as a quantitative tool for assessing substitutability as well as thought experiment used for a similar purpose. Theorising a price increase in relative terms will lead to a mathematical impossibility while theorising a price increase from zero to any positive price will be incompatible with the characteristics of competition among online platforms. In order to overcome these conceptual problems, the SSNIP test should be converted to a non-price centred test.

The conversion of the SSNIP into a SSNIC where demand substitution is tested based on increases in attention or information costs provides an attractive yet unsuitable solution for practice due to the significant complexities and uncertainties involved in such a modification. Although both types of costs play an important role in the business reality of online platforms generally speaking they are unfit as a benchmark for market power measurement which implies the ability to maximise profits without any improvement to the offered product or service. The increase of attention costs (exposure to more advertisements) may occur in practice however such form of revenue generation is often not linked to the core service provided by the platform and thus cannot serve as a test subject of market power. Furthermore, profit maximising increases in information costs (data sharing requirements) without any prospect of product improvements are uncommon and prohibited to a great extent by the GDPR therefore equally unsuited to be used for market power evaluations.

In this regard, the conversion of the SSNIP into a SSNDQ constitutes an attainable and desirable option as the relationship between quality and competition has already been recognized and studied extensively. Nevertheless, realizing this conversion in practice requires additional adjustments so as to correctly incorporate the distinctive legal and economic nature of online platforms. Accordingly, a concreate procedure should be developed for choosing the relevant qualities to be tested in each case concerning a SSNDQ while taking into account the legal framework of the concerned platform in each case. Despite the complexity of such adjustments, the revision of the SSNIP test should be pursued in order to ensure the completeness of the current competition law tool kit by including both qualitative and quantitative tests. Therefore the creation of such a quantitative tool would in essence ensure a certain procedural equality between the definition of the relevant market in cases concerning two- or multisided platforms and cases dealing with single sided undertakings. Passing up on the conversion of the SSNIP to a SSNDQ however would create a *de facto* exception for cases concerning zero-pricing for which there is no legal or economic justification. Clearly such an outcome is not desirable as the adoption of the SSNIP test was aimed at increasing the trueness of the market definition in the first place. Furthermore, beyond reinstating a SSNIP equivalent for zero-pricing scenarios, the process of conversion will likely contribute greatly to current practice by facilitating further research in non-price competition and its implications for the existing (EU) competition law framework.

Until the adaptations discussed in this paper are implemented, the process of the market definition in the case of online platforms (as well as other undertakings which rely on zero-pricing strategies), will have to rely on qualitative indirect evidence of substitution when direct evidence is not available, not sufficient or not helpful. Whether the application of these tools in practice will lead to satisfactory results is a matter that remains to be seen, however, it is important that in the meantime this practice does not become the rule in future cases and that further development of a more future resilient competition law framework is pursued.