MASTER THESIS

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"The definition of the relevant market in zero and multi-sided markets in EU competition law"

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Abstract

(English)

The application of European Competition law is challenged by the rise of complex digital markets such as multi-sided and zero-price markets. Specifically, the definition of the relevant market, which is the first step in a competition law investigation, is jeopardised and questioned by these complex markets. Insomuch the SSNIP test, which is the measurement method for the definition of the relevant market, is not applicable to zero-price markets and is questioned as inadequate for multi-sided markets. In this paper, I thus will be presenting the inappropriateness of traditional precepts of economic analysis, which lie at the heart of competition policy, vis-à-vis the rapidly evolving interconnected markets. Firstly, I'll introduce the role of the market definition for the purposes of competition law analysis and enforcement, focusing on the SSNIP test. Secondly, I will define the characteristics of multi-sided markets and zero-price markets, focusing on their complex nature and the qualitative and quantitative approaches that may be employed in a competition law investigation for such markets. A reference to the US Supreme Court's ruling in the Amex case will be made, as it is a Court's first recognition of a two-sided market as a single relevant market, paving the way to a new approach to market definition. Following, I will discuss the European Commission's Notice on the definition of the relevant market for the purpose of Community competition law adopted in 1997, and its evaluation of the Notice in 2021. The EU Commission's abandonment of traditional competition tool is unlikely, however, the need for an updated approach to the definition of the relevant market is acknowledged and expected.

(German)

Die Anwendung des europäischen Wettbewerbsrechts wird durch das Aufkommen komplexer digitaler Märkte wie z. B. mehrseitiger Märkte und Nullpreismärkte in Frage gestellt. Insbesondere die Definition des relevanten Marktes, die der erste Schritt bei einer wettbewerbsrechtlichen Untersuchung ist, wird durch diese komplexen Märkte gefährdet und in Frage gestellt. Insofern ist der SSNIP-Test, die Messmethode für die Definition des relevanten Marktes, auf Nullpreismärkte nicht anwendbar und wird für mehrseitige Märkte als unzureichend in Frage gestellt. In diesem Beitrag werde ich daher die Unangemessenheit der traditionellen Grundsätze der wirtschaftlichen Analyse, die den Kern der Wettbewerbspolitik

bilden, gegenüber den sich rasch entwickelnden vernetzten Märkten darlegen. Zunächst werde ich die Rolle der Marktdefinition für die Zwecke der Analyse und Durchsetzung des Wettbewerbsrechts erläutern und mich dabei auf den SSNIP-Test konzentrieren. Zweitens werde ich die Merkmale mehrseitiger Märkte und Nullpreismärkte definieren, wobei ich mich auf ihre komplexe Natur und die qualitativen und quantitativen Ansätze konzentrieren werde, die bei einer wettbewerbsrechtlichen Untersuchung für solche Märkte angewandt werden können. Dabei wird auf das Urteil des Obersten Gerichtshofs der USA in der Rechtssache Amex Bezug genommen, in der ein Gericht erstmals einen zweiseitigen Markt als einen einzigen relevanten Markt anerkannte und damit den Weg für einen neuen Ansatz zur Marktdefinition ebnete. Im Folgenden werde ich auf die Bekanntmachung der Europäischen Kommission über die Definition des relevanten Marktes im Sinne des Wettbewerbsrechts der Gemeinschaft aus dem Jahr 1997 und ihre Bewertung der Bekanntmachung im Jahr 2021 eingehen. Es ist unwahrscheinlich, dass die EU-Kommission das traditionelle Wettbewerbsinstrumentarium aufgibt, doch die Notwendigkeit eines aktualisierten Ansatzes für die Definition des relevanten Marktes wird anerkannt und erwartet.

TABLE OF CONTENT

Introduction

The definition of the relevant market is key to a competition law analysis. It defines the boundaries of a competition law investigation. To put it simply, it allows the competition authorities to focus on a particular market, which includes all the 'relevant competitive constraints', i.e. it pinpoints the relevant market in which the suggested violation by an undertaking has impacted competition. It is a necessary basis for competition analysis that is rooted in economics. However, it remains a rigorous legal concept.[1] In the context of European Union competition law, the European Commission has introduced the Small but significant increase in price ("SSNIP") test, a policy instrument which assists in the definition of the relevant market. Its aim was to provide legal certainty as to how competition authorities would define a relevant market. The Commission's Notice on the definition of the relevant market was published in 1997 and has remained unchanged ever since.[2] The SSNIP test was originally developed to define the relevant market in one-sided markets.[3] Therefore, multi-sided markets and zero-price markets present a limit to this test. On the one hand, the SSNIP test is not able to account for the "multi-sidedness" of multi-sided markets.[4] This is because they are characterised by the interdependency of two or more distinct groups of consumers in order to generate any economic value. Given that the SSNIP does not account for the interdependencies between distinct customer groups, it is unable to correctly assess the market in which these undertakings ("platforms") operate.[5] On the other hand, the SSNIP test is inapplicable to "zero"-price markets. As the name indicates, "zero"-price markets are characterised by offering goods and services that consumers do not (directly) pay for, hence the name "zero".[6] Firms in zero-price markets are profitable only if they offer a product which is somehow interrelated

[1] Robertson, Viktoria H.S.E., The Relevant Market in Competition Law: A Legal Concept (January 30, 2019). Journal of Antitrust Enforcement, Vol. 7, 2019, pages 158-176, Available at SSRN: https://ssrn.com/abstract=3325929 - p.8

[2] Robertson, Viktoria H.S.E., The Relevant Market in Competition Law: A Legal Concept (January 30, 2019). Journal of Antitrust Enforcement, Vol. 7, 2019, pages 158-176, Available at SSRN: https://ssrn.com/abstract=3325929 - p.1-2

[3] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - p.11

[4] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - p.11

[5] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - p.12

[6] John M Newman, 'Antitrust in Zero-Price Markets: Foundations", University of Pennsylvania Law Review 164, Issue 1 (December 2015), p.151

with the zero-price product.[7] Given that the SSNIP test is based on whether a hypothetical monopolist or cartel could profitably impose a small increase price, but there is no actual price to increase, the test is inapplicable.[8]
Evidently, these markets are not a phenomenon of modern information technology. In fact, there are several traditional “offline” markets such as payment card markets, and newspaper markets which are multi-sided.[9] Their complexity, however, has intensified with the evolution of the digital economy. With this complexity, the challenges to the definition of the relevant market have intensified as well.

In this paper, I will present the current state of European competition law, specifically its legal concept of the relevant market, against the rise of digital multi-sided and zero-price markets. The structure of the paper is as follows. In the second chapter, I will introduce the Relevant Market Notice of the EU Commission and, specifically, the SSNIP test. In the third chapter, we will explore the characteristics of a multi-sided market in the digital era and dive into detail on the different forms multi-sided markets may take. In the fourth chapter, same will be done for “zero”-price markets, and their structure. The fifth chapter will introduce the incorporation of multisided consideration in the definition of the relevant market through the quantitative and qualitative approach competition authorities may employ for the correct application of relevant market definition in the context of these complex markets. The sixth chapter will discuss the Amex case (2018) decided by the US Supreme Court, the first recognition of a two-sided market as a single relevant market. The seventh chapter will refresh our memory on the Relevant Market Notice of the EU's Commission and the SSNIP test, as the discussion will revolve around the Evaluation of the Market definition notice by the Commission. Ultimately, I will discuss the European Union's competition law's state of evolution towards a more economic approach to the definition of a relevant market for purposes of correct and effective competition law investigations.

[7] John M Newman, ‘Antitrust in Zero-Price Markets: Foundations”, University of Pennsylvania Law Review 164, Issue 1 (December 2015) - p.149- 206, p.154
[8] John M Newman, ‘Antitrust in Zero-Price Markets: Foundations”, University of Pennsylvania Law Review 164, Issue 1 (December 2015) - p.149- 206, p.196
[9] OECD, Directorate for Financial and Enterprise Affairs Competition Committee “*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*” DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - p.2

The Market Definition Notice

The Commission's notice on the definition of the relevant market for the purposes of Community competition law (OJ C 372, 9.12.1997, the "Market Definition Notice") was published in 1997 to provide guidance, hence legal certainty, as to how the Commission applies the concept of the relevant product and geographic market in its enforcement of EU competition law. It presented, specifically, the type of criteria and evidence it relies upon when assessing a market definition. The relevant market definition is used by the Commission in antitrust enforcement pursuant article 101 and 102 of the TFEU and, in merger control pursuant Council Regulation (EC) No. 139/2004. The notice, therefore, aims to codify robust best practices for market definition.[10] Particularly, the necessity to define a relevant market is the precondition for:[11]

- assessing dominance pursuant article 102 TFEU, i.e. whether a firm holds dominant position, which therefore limits its freedom of behaviour and awards it special responsibility;[12]
- the assessment of infringements pursuant article 101 TFEU, i.e. whether a specific behaviour by an undertaking has a significant impact on the market and is thus subject to legal restrictions.[13]
- the merger control regime as a whole, i.e. in order to assess whether a merger is anticompetitive, it must be assessed whether - and which – activities of the merging parties overlap.

The definition of the relevant market is the starting point of any competitive assessment of an undertaking. It is not an aim of itself, but rather serves an analytical purpose in competition law.[14] This was emphasized by the court in the Società Italian Vetro: "*the appropriate*

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[10] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021) - pp.10

[11] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021)- pp.5

[12] Ferro, M. S. (2019). Chapter 1: Introduction. In *Market Definition in EU Competition Law*, Cheltenham, UK: Edward Elgar Publishing. pp.1

[13] Ferro, M. S. (2019). pp.1

[14] Robertson, Viktoria H.S.E., *The Relevant Market in Competition Law: A Legal Concept* (January 30, 2019). Journal of Antitrust Enforcement, Vol. 7, 2019, pp. 17

definition of the market in question is a necessary precondition of any judgement concerning allegedly anticompetitive behaviour".[15]

The product market and the geographic market concepts are used to identify and define the boundaries of competition between undertakings. Together, making up the relevant market, they allow the identification of the actual competitors of the undertaking at hand and, particularly, simplify the calculation of market power. These concepts were established following the United Brands case[16] and further established in the Market Definition Notice. The product market represents the product and services that are interchangeable or substitutable by the consumer. The products characteristics, prices, as well as intended use will be the criteria for the assessment of the product market.[17] The geographic market, instead, represents the area in which the conditions of competition are sufficiently homogenous.[18] They are concepts which allow delineation between undertakings in a material, geographical and temporal sense.[19]

The Relevant Market Notice explains that there are two types of competitive constraints to be considered in order to establish the relevant market:

- demand-side substitution: whether the customer is in a position to switch easily to available substitute products or services.[20]
- supply-side substitution: whether suppliers are able to switch their sales to the relevant products or areas and market them in the short term without incurring significant additional costs or risk.[21]

[15] Case T-68/89 Società Italiana Vetro et al v Commission EU:T:1992:38, para. 159
[16] Judgment of 14 February 1978, *United Brands Company and United Brands Continental BV* v *Commission*, Case 27/76, EU:C:1978:22, paragraph 10 ('Case 27/76, *United Brands* v *Commission*')
[17] Case 27/76, *United Brand* v *Commission*, paragraph 12 and confirmed in the judgment of 27 January 2021, *KPN* v *Commission*, T-691/18, EU:T:2021:43 ('T-691/18, *KPN* v *Commission*'), paragraph 67.
[18] Case 27/76, *United Brands* v *Commission*, paragraph 11, and confirmed in the judgment of 5 October 2020, *HeidelbergCement AG and Schwenk Zement KG* v *Commission*, T-380/17, EU:T:2020:471 ('T-380/17, *HeidelbergCement and Schwenk Zement* v *Commission*'), paragraph 29. Also codified in Article 9(7) of the EU Merger regulation.
[19] Ferro, M. S. (2019). pp.1
[20] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021)- pp.8
[21] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021)- pp.9

According to EU jurisprudence, the Commission enjoys a degree of discretion in interpreting the content of the Notice, specifically the level of detail that it may wish to include.[22] Nevertheless, the principles set out in the Notice are binding to the Commission, therefore they enjoy no discretion in the methods employed or elements considered when carrying out a market definition.[23]

The relevant market definition is a concept which has been characterised by the dominance of an economic doctrine, that is the one put forth by neo-classical economists. Modern antitrust law is said to be still firmly grounded in neoclassical economics, which is in turn centred on price theory.[24] However, the concepts and methods for market definition remain a matter of law. This is because the law bases itself on economic theory but then turns it into a solid legal criteria in order to enhance legal certainty and predictability in applying the law.[25] Economic doctrine, therefore, can only supply arguments for the interpreters of the law, but to the extent of their adequacy or applicability, they will be applied in a way that is compatible with the legal principles and rules in force.[26] This is also called the *de jure condendo* approach. It can be said that market definition is turned to by jurists as a tool for the interpretation and enforcement of competition law.[27]

Competition authorities have introduced the Small but Significant Non-Transitory Increase in Price (SSNIP) test in order to define the relevant market in all its three dimensions: product, geographical area and time.

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[22] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021)- pp.10

[23] SWD (2021) 199 final, (Brussels, 12.7.2021)- pp.16

[24] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015)pp.149

[25] Cruz Vilaça, J. L., 'T*he intensity of judicial review in complex economic matters – recent competition law judgments of the court of justice of the EU*', (2018) 6(2) Journal of Antitrust Enforcement 173, at pp. 187

[26] Ferro, M.S. (2019), pp.4

[27] Ferro, M. S. (2019).pp.3

The SSNIP test

The SSNIP test "*defines the smallest set of products, including some focal product of interests that can jointly profit from a non-marginal, typically 5 percent, increase in price(s)*"[28]. Put differently, the SSNIP test seeks to identify the smallest market within which a hypothetical monopolist could impose a Small Significant Non-Transitory Increase in Price. This price increase is usually set to 5% over a period of 12 months.

The SSNIP test is not a European invention, on the contrary, it was first set out in the 1982 Merger Guidelines by the US Department of Justice. The 1982 Merger Guidelines provides guidance on the principles and specific standards used by the U.S. Department Justice for antitrust purposes. Principles such as market definition (product and geographic market), and the calculations of market shares for the purposes of section 7 of the Clayton Act[29], or Section 1 of the Sherman Act.[30] This initially American tool for market definition reached across the Atlantic.[31] It was first used in the EU in the Nestle vs Perrier[32] case and was officially recognised by the Market Definition Notice in 1997.

The SSNIP test involves talking to people who make buying decisions and the question asked is whether the undertaking at hand would profit from a 5% price increase for at least 12 months, all else (i.e. terms of sale) remaining equal.[33] Essentially, it calculates demand elasticity. It allows us to analyse whether a price increase would be profitable, or instead, induce consumers towards substitution, and thus making it unprofitable.[34] It is also referred to as the 'hypothetical monopolist test' and it is codified in paragraph 17 of the European Commission's Market Definition Notice:

> "*The question to be answered is whether the parties' customers would switch to readily available substitutes or to suppliers located elsewhere in response to a hypothetical*

28 Øystein Daljord, Lars Sørgard and Øyvind Thomassen, 'The SSNIP Test And Market Definition With The Aggregate Diversion Ration: A Reply to Katz and Shapiro' (2008) 4 JCL & E 263, 263.
29 15 U.S.C.A. § 18 (1981). Mergers subject to section 7 are prohibited if their effect "may be substantially to lessen competition, or to tend to create a monopoly."
30 15 U.S.C.A. § 1 (1981). Mergers subject to section 1 are prohibited if they constitute a "contract, combination... or conspiracy in restraint of trade."
31 Ferro, M. S. (2019) pp.2
32 Case No 4064/89, Nestle vs Perrier (1992)
33 Niminet Liviana, "The Small but Significant and Nontransitory Increase in Price (SSNIP) Test" Studies and Scientific Researches. Economics Edition (University of Bacau), 2008 (13), p.66
34 Niminet Liviana (2008), pp.67

small (in the range 5 % to 10 %) but permanent relative price increase in the products and areas being considered. If substitution were enough to make the price increase unprofitable because of the resulting loss of sales, additional substitutes and areas are included in the relevant market."[35]

It must be said that, the SSNIP test was built as a one-sided SSNIP test, i.e. on the assumption that it is investigating one-sided markets.[36] Therefore, it does not account for the interdependencies between distinct customer groups exhibited by a multi-sided platform. It has been argued that there is an underlying rationale of the SSNIP test that can be applied to all sides of the platform undertaking at hand.[37] However, it is still deemed as unsuitable for multi-sided markets which exhibit zero-price strategies. To be precise, downsides for the definition of one-sided markets have already been detected in terms of predicting too board relevant markets and thus including products that are not substitutable.[38] For multi-sided markets, the downside is quite the opposite, as it may lead to a market definition that is way too narrow.[39]

As I will present in the following chapters of this paper, the modelling and measuring of the interdependencies exhibited by a multi-sided market is a crucial step for the correct analysis for competition law purposes. However, due to a growing amount of novel digital business models, setting a uniform SSNIP methodology for all multi-sided case may not be the right direction either.[40] Ultimately, the method used for the definition of the relevant market must, however, lead to realistic and just results that correspond to behaviours that are in fact anticompetitive and thus should be prohibited and penalised. Otherwise, a disproportionate, discriminatory and unjustified burden will be imposed on undertakings.[41]

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[35] *OJ C 372* Commission Notice on the definition of relevant market for the purposes of Community competition law, *9.12.1997, §17*

[36] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) pp.11

[37] Gurkaynak, Gonenc et al. "*Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis*." Innovation Law & Policy eJournal (2016), pp.11

[38] Niminet Liviana (2008), pp.67: "*when a monopolist sets its prices a monopoly level, it may happen that two products appear to be close substitutes whereas at competitive prices they are not"*

[39] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) pp.12

[40] Gurkaynak, Gonenc et al. (2016), pp.11 - Explains that it is hard to find a 'one-size-fits-all' SSNIP test for multi-sided markets.

[41] Ferro, M. S. (2019). pp.3

Multi-sided markets

The term "multi-sided" market refers to the type of market in which a firm sells two or more distinct products or services to two or more distinct consumer groups (the so-called 'sides' of the market) in a way that generates value for at least one of the consumer groups.[42] When a firm acts in a multi-sided market, it is referred to as a platform.[43] This is because it connects the distinct, but interdependent, customer groups through their offering of two or more distinct products of services. Without such platform, the consumer groups would not be able to generate that value, or at least to that same extent.[44] A platform is said to always exhibit indirect network effects, i.e. interdependency between the two or more distinct consumer groups. In fact, despite the numerous contrasting definitions provided for in literature, it is the key characteristic of a multi-sided market.[45] Indirect network effects may be referred to as positive or negative, and depending on their 'category', there is a balance that is thrived for in order for it to operate profitably.
First, I will define how network effects may be categorised as 'positive' or 'negative':

- **Positive indirect network effects** arise when "*the value obtained by one group of customers increases with the number of customers (or demand) of the other groups*" (Lapo Filistrucchi, pp.37). For instance, a heterosexual dating app exhibits positive indirect network effects, as the value obtained by men customers increases when the number of women customers joining the platform increases too. Put simply, if the dating platform has many women users, more men users will want to join. The same applies to video-game consoles and payment-cards markets: more users will want to play a video-game console if it offers a lot of video-games, and more cardholders will subscribe to a payment-card if many merchants have a terminal that accepts that payment-card.

[42] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.33
[43] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.34
[44] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.37-38
[45] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.34-36 - points out the differences in Evans, Wright, and Noel's definition of a two-sided market. The similarities lay in the recognition of the interdependency between distinct customer groups, also referred toas 'cross-group externalities' definition by Rochet and Tirole.

- **Negative indirect network effects**, contrastingly, arise when "*the value obtained by one group of customers decreases with the number of customers (or demand) of the other group*" (Lapo Filistrucchi, pp.38). For instance, television markets, or television advertisement markets, exhibit negative indirect network effects, as the value obtained by TV watching customers decreases when the number of advertisers joining the television channel increases.

It must be noted that multi-sided markets may exhibit both negative and positive indirect network effects.[46] Referring to the above example of television advertisement, TV channels do not only exhibit negative indirect network effects, but also positive indirect network effects: the value obtained by advertisers joining the television channel increases when the number of TV watching customers increases too. It is therefore absolutely essential for the platform, in order to operate profitably, to recognise the type of interdependency between the 'sides' of the market it has created.[47] However, whether positive or negative, the indirect network effects reflect a key component of the proper functioning of a multi-sided market: it needs both customer groups demand curves to increase in order to function. For the platform to generate any value, and thus operate profitably, it needs the two or more customer groups to be 'on board'[48], i.e. it needs demands form all sides of the market. Referring to the above example, a heterosexual dating platform is successful only if both customer groups (men and women) are present. A heterosexual dating platform with only men users will not be able to successfully operate without a corresponding number of women users, and vice versa. Thus, a balance is to be achieved by the platform in order to ensure that there is demand from both sides of the platform. The best way of achieving a balance, thus ensuring demand from all sides of the market, is establishing a correct and designated pricing structure.[49] Designated, because in the event of multi-sided markets exhibiting negative interdependencies, the appropriate pricing structure must account for the negative indirect network effects between the consumer groups. This is to say, in a multi-sided setting, the price imposed on one side of the market is not only

[46] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.38
[47] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.39
[48] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.39
[49] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.40

dependant on its own customer group costs and demands, but also on the benefits derived from the participation of the other side(s) of the market, specifically the other side(s) demand and profits.[50]

A further distinction should be drawn between **transaction** and **non-transaction platforms** for the purposes of an adequate pricing structure. Transaction platforms are those platforms that act as an intermediary for different customer groups, and whose aim is to enable direct and observable transactions between those different customer groups.[51] They are referred to also as matching platforms, as their objective is to enable the most achievable match between the different customer groups[52]; or as the 'payment-card' type as payment-card markets are characterised by the presence and observability of the transaction between payment-card users and payment-card terminals.[53] Non-transaction platforms, on the contrary, are those platforms that also act as an intermediary for different customer groups, but the customer groups' interaction with each other is indirect and non-observable.[54] There is an interaction present between the customer groups, but it is not observable, which is why they are so-called 'non-transaction' platforms.[55] These are referred to also as audience providing or advertising platforms, as their objective is to provide for/serve only one user group of the market; or as the 'media' type as there is an (non-observable) interaction between the customer groups rather than a transaction, which serves only one user group of the market. In order to serve only one group, non-transaction platforms have a strong incentive to internalise the interactions present between the customer groups.[56] As put forward previously, multi-sided markets need all sides of the market to be 'on board' in order to properly operate. Therefore, if one of the market sides is consciously aware that they were at the losing end of a negative network effect, the whole

[50] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.8
[51] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - pp.5
[52] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - pp.6
[53] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.40
[54] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) - pp.5
[55] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.41
[56] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.39

business model of a non-transaction platform would collapse. As a consequence, non-transaction platforms may set the interaction cost of one side of the market to zero. [57]

Having introduced the nature of multi-sided markets, we can summarise and settle on four major elements that characterise such markets[58]:

1. The platform: a multi-sided market always acts as a platform that connects different customer groups which, otherwise, would not have the opportunity to carry out that same transaction.[59]
2. The users: multi-sided markets brings together different user, which can either be distinct groups of users, or the same users switching sides in each transaction.[60] An example of this would be Ebay, a mutli-sided market where users can be buyers, and sellers at the same time.
3. A well-thought out pricing structure: the platform must carefully set up a pricing structure which adequately reflects the interdependencies between the profits and demands of the different sides of the multi-sided market.[61]
4. The (indirect) network effects: the interconnection between the different sides of a multi-sided market is a result of the existence of network effects, i.e. more users one side brings more users on the other side(s). They are the principal characteristic for the success of multi-sided markets. More specifically, there is this idea that indirect network effects enable multi-sided platforms to rapidly increase their market power simultaneously, on all sides of the market. However, there is also the idea that the same rationale applies to a quick crash of a multi-sided platform: either all sides prosper on

[57] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.9. This point will be further elaborated in the following chapter "Zero"-Price markets in the digital era.
[58] …or at least to that same extent.. Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.6
[59] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.9
[60] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.9
[61] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.8

the platform, and the platform quickly acquires a lot of market power, or all sides decline and the platform quickly loses the market power it had and crashes. [62]

These four elements should be considered as the pillars of the business model upon which a multi-sided market operates. Already, the complexity in properly understanding a multi-sided market are apparent. Additionally, with the rise of the digital era, complexity has risen too with the integration of technology in multi-sided markets.

Online platforms fall under the description of multi-sided markets, as they allow for two or more customer groups to interact and meets the demands of these groups by facilitating this interaction between them.[63] They are one of the primary examples of the integration of technology in their business models. The data economy has generated a growing number of new business opportunities as it allows for new services to be offered to consumers around the world.[64] The use of technology for creating the interdependency between two or more customer groups is an incredible advantage. In fact, it may as well explain the success of online platforms that we use on the daily.[65] It has, in some ways, increased consumer welfare.[66] Nevertheless, it would be detrimental to ignore this added complexity to the business models of multi-sided markets.

Unfortunately, as pointed out by Daniel Mandrescu in his work *Applying (EU) competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)* (2018):

> "*the two- or multi sided nature and diverging business structures of online platforms combined with the dynamics of online markets fuelled by constant technological developments have not been addressed extensively by competition authorities, yet these aspects may have a decisive impact on the outcome of future investigations*"[67].

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[62] Gurkaynak, Gonenc et al. *"Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis."* Innovation Law & Policy eJournal (2016), pp.6-7

[63] Daniel Mandrescu, 'Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)', (2018), 41, World Competition, Issue 3, pp. 458

[64] Botta, M. & Wiedemann, K. (2018). "*EU Competition Law Enforcement vis-à-vis Exploitative Commission (1997)*", pp.87

[65] Referring to the success of online multi-sided platforms such as Amazon and eBay.

[66] Botta, M. & Wiedemann, K. (2018). "*EU Competition Law Enforcement vis-à-vis Exploitative Commission (1997)*", pp.88

[67] Daniel Mandrescu, 'Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)', (2018), 41, World Competition, Issue 3, pp. 454

Given that multi-sided markets involve, and thus affect, more than one distinct group of customers, it should account for interdependencies between distinct customer groups, as they are the essence of the business model built upon the multi-sided platform. However, online platforms cannot be said to have a predominant type of business models, but rather take any shape or form depending on the value an interaction created between customer groups[68]. They are not elementary in the way they operate, and their business models are prone to evolve with the advancements of technology. Moreover, their complexity varies from multi-sided market to multi-sided market: "*Markets are, at different levels, two-sided"*[69]. Their pricing structures may differ as well from market to market. Therefore, it may be difficult to use traditional competition tools, such as the SSNIP test, that does not account for the principal characteristics of such markets.

In the next chapter, I will present zero-price markets. These types of markets also aren't a phenomenon of the digitalisation of the economy. However, they are a type of multi-sided market which has increased exponentially since entering the digital era. A zero-price market, for reference, is when a platform offers a service or a product free of charge to one side of the market, and charges the other side(s) of the market for an interrelated product. More notably, the multi-sidedness of a market is to be measured for the correct definition of the relevant market. If the relevant market of a multi-sided market was defined by looking at only one side of the market, the market definition would be too narrow and ultimately incorrect for the purposes of competition law.[70]

Peeling back the layers of a multi-sided markets may be more demanding than expected, but as I will present in the 5th chapter of this paper, a qualitative and quantitative approach may be employed for the correct antitrust assessment of the relevant market, of a multi-sided market.

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[68] Daniel Mandrescu, 'Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)', (2018), 41, World Competition, Issue 3, pp. 461 - Mandrescu compares platforms' business fluidity to water.
[69] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.41
[70] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.35

Zero-price markets

Zero-price markets can be defined as those markets where an undertaking offers products and/or services which are set to a price equal to 0€ to customers, hence the name "zero"-price markets.[71] They may also be called free-of-charge markets.[72] Following neoclassical economics[73], which is firmly centred on price theory, a market which offers good or services at no price (for 'free'), would not constitute a market and thus would not be able to have any market power.[74] However, we should not be fooled by the word 'free', because the zero-price products or services offered in these markets are not in fact 'free'. To say that the zero-price products are free would be to beg the question.[75] Realistically, it would not be economically attractive or durable to do so from a business perspective. Zero-price products or services offered at a zero price is possible because customers incur exchanged monetary costs for that set price. Put differently, zero-price products are not 'free' because they are exchanged within the market.[76] For an undertaking to profitably, and sustainably, offer products at a set price of zero, it must have the objective of turning a profit in an alternative manner, which relates to the zero-price offering. Hence, zero-price markets are inherently multi-sided. Services or products offered free of charge exhibit indirect network effects between the customer group receiving those services free of charge and the other group(s) which is charged a positive price. An example of such a market is Google; Google products are offered at zero-price, but Google customers incur data and attention costs rather than monetary costs.[77] This highlights the central feature exhibited by zero-price markets: the interrelated nature of the 'free' product with the 'profitable' product.[78] The zero-price structure of a market calls for complementary

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[71] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.149

[72] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) pp.8

[73] John M Newman, (December 2015) pp.196: neoclassicists associated with the Chicago School of Economics developed the "price theory". Named after the key role played by prices in the analytical tools used for the investigation of markets.

[74] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.149

[75] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.151

[76] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.206

[77] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.165-170.

[78] John M Newman, (December 2015) pp.154

products, which may be tied or nontied. An example of tied complementary products in a zero-price strategy is the Microsoft tie with Windows operating system to its Internet explorer web browser. An example of nontied complementary products is RyanAir's offering of an airline booking and car booking through their website. The services offered here are not substitutes, but rather complements and the customers are free to use both. Regardless of the product's nature, the interrelated complementary product strategy that is employed in a zero-price market will always create numerous anticompetitive opportunities for the relevant undertaking.[79] It must be noted that this interrelated complementary product strategy may take the form of a multi-sided market as well.[80] The undertaking will be able to offer a zero-price product to one group of customers because it will be charging the other group(s) of customers. This is explained by the fact that in a multi-sided market, exhibiting negative indirect network effects, there is one group that value positively the interaction created by the multi-sided platform. An example of this is Instagram, one of the biggest social media platforms today. Their user customers are receiving the App product (that is the Instagram App itself) at a zero-price, because thanks to their information and attention to their Instagram feed, advertisers and data-seekers will be willing to pay a positive price to appear on the App. Moreover, a zero-price market structure may take the form a 'freemium' strategy. That is the process of offering a basic version of a good or service at a zero-price, while offering at tan upgraded version of the good or services at a positive price.[81] An example of this strategy is Amazon. It offers its customers a free version of their platform, however, at a price, customer may access an upgraded version of their platform with advantages such as quicker delivery of the goods ordered, also known as Amazon Prime.

Bearing this in mind, the main characteristic of a zero-price market is the interrelation of products that are exchanged between customer and undertaking, or between customers through the undertaking's acting as a platform (multi-sided). This all the more highlights that prices set at a zero price are not 'free', as customers would not exchange anything for a product that is indeed free. They do not exchange money for the product, but rather exchange *something else*. The rise of the digital era has made it so that this exchange of *something else* for zero-price products, are information and/ or attention costs:[82]

[79] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.156
[80] John M Newman (December 2015) pp.156
[81] John M Newman (December 2015) pp.157
[82] John M Newman (December 2015) pp.165

- **Information costs**: the digital era has revolutionized zero-price business models, allowing it to rely heavily on customer information. As pointed out by the British mathematician Clive Humby (2006), in today's economy "*data is the new oil*". Customer data information has become a valuable and tradable good which is sold to other undertakings to be used strategically for their own business models, or to be used to target certain customers. In this case, the money that would've been exchanged for the product by the customer, is replaced by information data on the costumers themselves. The undertaking is thus able to use this information data as an interrelated product to be sold to other undertakings.[83]

- **Attention costs**: the rise of digital era has allowed to monetize attention, customers now literally *pay attention*.[84] In this case, which is usually part of a freemium strategy, the firm offers customers a zero-price version of their product which includes advertisements, and a paying version of their product which does not include, or at least lesser, advertisements. The customer's attention, therefore, is not directed towards the zero-price product, but rather to advertisements which are totally unrelated to the undertaking holding the zero-price product. Nevertheless, the customer's attention cost is a sign of the presence of an exchange cost for the relevant (zero-price) product. In contract law, we would say that it serves as consideration to uphold the bargain between the undertaking and the customer.[85] In this case, the money that would've been exchanged for the product by the customer, is replaced by paying attention to advertisements. The undertaking is thus able to offer advertisement deals with seeking-advertisement businesses as an interrelated product.[86]

Both of these exchanged non-monetary costs highlight how, in the digital economy, zero-price markets have developed their own unique characteristics and vast scope.[87] This isn't to say that attention costs, for instance, are an online phenomenon. "Offline" zero-price markets prior to

[83] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.166-169
[84] John M Newman (December 2015) pp.172
[85] John M Newman (December 2015) pp.172 - rationale used by the Court in *Jennings v. Radio Station KSCS, 96.3 FM, Inc*. 708 S.W.2d 6o (Tex. App. 1986)
[86] John M Newman (December 2015) pp.169-170
[87] EOCD Background note by the Secretariat "Quality considerations in digital zero-price markets" (28 November 2018) pp.3

the digital economy always existed. Media companies offered radio, television and newspaper content available free of charge to their consumers, as they were (also) in return funded by advertising.[88] However, today we are witnessing seven of the largest global companies in the world provide zero-price products and services in the digital market.[89] The price/data trade-off in digital markets has become so valuable that it has been found that zero-price mobile applications collect a larger amount of consumer data than paid ones (Kummer & Schulte, 2016)[90] and thus are fundamentally more valuable for undertakings with a zero-price market strategy.

If truth be told, whether the customer pays for a zero-price product with attention and information costs rather than money, is irrelevant because customer welfare is nonetheless affected.[91] The fact that the product is offered at a zero-price is only part of a broader business strategy which, for the purposes of European competition policy, be considered as a violation of competition law.[92] Insofar that zero-price markets represent new ways of creating, enhancing and ultimately abusing market power and thus detrimental to consumers' welfare.[93] Consequently, competition law's struggle of applicability on zero-price markets is ironic. Ironic in the sense that the consumer welfare is one of the, if not the most, important economic goals of European competition policy.

As mentioned previously in this paper, competition law in its current form, is inapplicable to undertakings or lines of undertakings which provide goods or services at a zero-price because its fundamentally based on neoclassical economics, i.e. the "price theory". Competition law is not applicable to charitable organisations and other organisations offering goods free of charge.

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[88] EOCD Background note by the Secretariat "Quality considerations in digital zero-price markets" (28 November 2018) pp.4

[89] PriceWaterhouseCoopers (2022), "Global Top 100 companies by market capitalisation: March 2022", available at: https://www.pwc.com/gx/en/audit-services/publications/top100/pwc-global-top-100-companies-by-market-capitalisation-2022.pdf/. Names include: Apple, Microsoft, Alphabet Inc., Amazon.com Inc., Nvidia Corp.

[90] Kummer, M. and P. Schulte (2016), "When Private Information Settles the Bill: Money and Privacy in Google's Market for Smartphone Applications", Centre for European Economic Research, Discussion Paper No. 16-031, http://ftp.zew.de/pub/zew-docs/dp/dp16031.pdf.

[91] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.173

[92] EOCD Background note by the Secretariat "Quality considerations in digital zero-price markets" (28 November 2018) pp.18

[93] John M Newman (December 2015) pp.178

However, as argued by Ferro (2015)[94], zero-price products should not be excluded by the applicability of competition law if the undertaking offering such products are subsidised by positively-priced products. This implies recognising data or advertising attention as a 'price' paid by consumers in exchange for the zero-price product.[95]

The Google Shopping case (2018)[96] is a case where, according to the EU Commission, Google had systematically provided preferential placement to its own Google Shopping services compared to any other rival shopping services in the Google (generic) search results. Google had demoted the search results of any rival shopping services with its 'Panda' algorithm[97]. The Panda algorithm made it so that Google Shopping services would appear at the very top of a Google search, and thus 'exploit' a consumer's reliance on top search results on the search engine. The General Court upheld the fine imposed by the Commission as it found that "*by favouring its own comparison shopping service on its general results pages through more favorable display and positioning, while relegating the results from competing comparison services in those pages by means of ranking algorithms, Google departed from competition on the merits*".[98] Google raised the argument that its actions (placement preference of Google Shopping through Panda) were to improve the quality of its general search engine as the algorithm is built to deliver more relevant results to its customers (justified anticompetitive behaviour on the basis of product improvement).[99] However, this argument was rejected. The algorithm's change in the general search service design did not explain its favoratism in placement of Google Shopping. The General Court recognised that Google could divert consumers' attention where it wanted:

> "*...consumers' attention is diverted to the results from Google's comparison service owing to their enhanced visibility, despite those results not necessarily being more relevant than those from competing comparison shopping services.*"[100]

[94] Ferro, M. (2015), "'Ceci n'est pas un marché': Gratuity and competition law", Revue de Droits de la Concurrence/Competition Law Journal, https://papers.ssrn.com/sol3/papers.cfm? abstract_id=2493236.
[95] EOCD Background note by the Secretariat "Quality considerations in digital zero-price markets" (28 November 2018) pp.19
[96] Google and Alphabet v Commission (Google Shopping) case T-612/17, available here: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:62017TJ0612
[97] 'Panda' is an algorithm that was first introduced on February 24,2011. More information relating to the algorithm are available here: https://googleblog.blogspot.com/2011/02/finding-more-high-quality-sites-in.html
[98] General Court of the European Union, Press Release No 197/21, Luxembourg (10 November, 2021) available here: https://curia.europa.eu/jcms/upload/docs/application/pdf/2021-11/cp210197en.pdf - pp.1
[99] Google and Alphabet v Commission (Google Shopping) case T-612/17 - para.554
[100] Google and Alphabet v Commission (Google Shopping) case T-612/17 - para.566

Here, the General Court established that the efficiency gains linked to Google's practice were not justified as they did not counteract its negative effects on competition; as well as implicitly recognised the market power held by Google search engine as a zero-price product offered to customers in exchange of attention costs.

The question this paper, however, is not whether European competition law recognises attention costs as exchangeable for a product, but whether a relevant market can be defined in the presence of zero-price markets and what parameters should be considered in these markets. As mentioned previously, market definition is the first step to a competition investigation and the SSNIP test, is the tool to denominate the boundaries of the market through the limits of substitutability. However, being based on a price theory, it seems inapplicable to a market with no prices. Given that zero-price markets are inherently two or multi-sided markets, the following chapter reflects on the approaches that may be employed on multi-sided markets which is applicable to zero-price markets too. Before doing so, it must be noted that the irrespective of the approaches utilised for market definition in a multi-sided market, a zero-pricing decision may reflect both on the network effects created by a platform and the competitive or anticompetitive effects it creates. Thus, it should always be considered as part of a market.

Qualitative vs Quantitative approach

Multi-sided markets must be approached by a qualitative and/or a quantitative approach for a competition law assessment. It is argued by Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013)[101] that the correct assessment of a multi-sided market is done though the employment of a qualitative approach to the first phase of the assessment, as it allows the deduction of indirect network effects and their signs (positive or negative), and the employment of a quantitative approach to the second phase of the assessment, as it allows the measuring of the indirect network effects detected. Consequently, the qualitative approach would be fine alone if, in the first phase of the evaluation of a merger, the indirect networks are checked and they are not found. Then the competition law analysis may as well proceed as it is traditionally done. However, if they are found, then it is necessary to proceed and measure them.[102]

In this chapter, I will present the different approaches that may be employed during a competition law assessment of multi-sided markets, highlighting their advantages and their limits before a correct assessment of a multi-sided market.

The qualitative approach

A qualitative approach to the assessment of a multi-sided market means focusing on the indirect network effects that are created by the market, and specifically, figuring out whether these are positive or negative.[103] This is advantageous as it promotes for competition analysis to start looking at all, if multiple, sides of the market. This approach, for instance, was employed by the Dutch Competition Authority in the BloemenveilingAalsmeer/FloraHolland case.[104] The qualitative approach may be applied in two different ways: in a deductive way (the "deductive approach") and/or by way of interview (the "interview approach"):[105]

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[101] Lapo Filistrucchi, Damien Geradin, Eric van Damme, 'Identifying Two-Sided Markets', (2013), 36, World Competition, Issue 1, pp.47-59
[102] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.46
[103] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013) pp.46
[104] Case No. 5901/184 BloemenveilingAalsmeer/FloraHolland [2007] NMa (para. 29).
[105] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.47

- **The deductive approach**: given that some platforms are evidently connection distinct customer groups and exhibiting indirect network effects, the deductive approach consists in relying on intuitive logic. This is because it is easier to look for decisive evidence if you already know what you are type of evidence you are looking for. If we take a newspaper for example. It is quite obvious that it connects readers and advertisers. A competition law investigator will evidently see that the newspaper market is multi-sided. This approach therefore asks to commence with intuitive logic for guiding the finding of supporting evidence, such as business practices, which support the argument that indirect network effects are created by the newspaper. That would be providing business acts by the newspaper, acting as a platform, linking the price paid by advertisers to the number of readers or viewers.[106]

  It must be said, however, that this approach has its own limits. Intuitive logic may as well be utilised for the discovering of indirect network effects, but it may not necessarily indicate use towards the correct sign of these network effects. [107] If we take again the example of the newspaper, our intuitive logic would point us towards one positive indirect network effect (more readers, more value for advertisers° and one negative indirect network effect (more advertisements, less value for readers). However, as argued by the Bundeskartellamt in the *Holtzbrinck* (2015)[108] case, the more advertising present on a newspaper will enhance readership. Readers are said to value advertisements in this case, because they are aware that advertisements are needed for the higher revenues of the newspaper, which ultimately allows for better and higher quality journalism. Whether or not we agree that there is a direct awareness of the reader's interdependencies with advertisement companies for a newspaper, it underlines how intuitive logic can lead us to an incorrect conclusion. [109]

- **The interview approach** consists on interviewing one of the sides of the market actors (business actors or consumer groups) by way of questionnaire. The consumers, or business actors, would be asked a set of questions which aim at evaluating whether they positively or negatively value the presence of the other side(s) of the market. This

[106] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.47
[107] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.49
[108] Case No COMP/M.7476 - HOLTZBRINCK PUBLISHING GROUP / SPRINGER SCIENCE+BUSINESS MEDIA GP ACQUISITION SCA / JV
[109] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.47

approach was used in the *Travelport/Worldspan* (2004)[110] case. The Commission found used questionnaires and in-depth interviews with a variety of market actors to establish how, and on what basis, GDS was connecting two separate customer categories. Contrarily to the deductive approach, this one allows for market actors to provide evidence themselves regarding the indirect network effects created by the platform. The issue regrading a consumer's direct awareness of the interdependencies created by a platform with another market actor, for instance, will be resolved by way of questionnaire.

The deductive and interview approach should be used collectively for the first phase of a competition law assessment of multi-sided markets. Notwithstanding, the qualitative approach does not allow one to say anything about the size of the indirect network effects. To the rescue is the quantitative approach to the assessment, which allows for such measuring. [111]

The quantitative approach

The role of indirect network effects is crucial for the correct assessment of the market definition. For their roles to be correctly identified, a quantitative approach for the measuring of indirect network effects is needed. As mentioned previously, the quantitative approach to a competition law assessment would be the second (or final) stage of the assessment. It focuses on the sign of the indirect network effects, and in measuring their size.[112] Measuring their sizes means drawing a conclusion on how much one side of the market care about a price increase versus how much that same side of the market values an increase in usage, for instance.[113] Ultimately, measuring the size of the indirect network effects allows to assess correctly the degree of market power[114] or the unilateral effects a merger may have[115]. Failure of measuring the size of network effects is compared to the failure of measuring elasticity demand. [116]

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110 Case No COMP/M.4523- Travelport/Worldspan (2004)
111 Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.50
112 Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.50
113 Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.51
114 Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.55, See also DS Evans, n. 11.
115 DS Evans & Micheal D. Noel, The Analysis of Mergers that Involve Multisided Platform Businesses; 4 J. Competition L. & Econ. 663 - 695 (2008)
116 Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.52

Similarly to the qualitative approach, the quantitative assessment may be approached by two different quantitative approaches: the stated preferences approach (also known as the "survey approach") and the revealed preferences approach (also known as the "data approach").[117] Both are approaches that require, and are essentially based upon, the analysis of data collected by different market actors.

- The **stated preferences, or survey, approach** entails the assessment of all sides of the market through the use of a survey or interview to market agents (the distinct customer groups). Contrarily ot the qualitative interview approach, the stated preferences approach will conduct a conjoint analysis to figure out not only whether the market sides value (positively or negatively) one another, but also how much they value the other market sides compared to their own. To be precise, it will measure how demand reacts to changes in prices, as well as how much demand on one side depends on the number of customers on the other(s) side, keeping all else (including pricing) equal.[118] The questions on the survey or interview will be centred around what would be the market agent's reactions to the deterioration of various parameters of competition, regardless of the side on which the deterioration is happening. This method, for instance, was adopted in the BloemenveilingAalsmeer/FloraHolland (2007) case[119]. In receiving information about all sides of the market, it allows to measure the indirect network effects between all sides of the market. Nevertheless, this stated preferences approach remains limited in its hypotheticality.[120] The surveys and interviews conducted under this approach only present hypothetical situations to actual market agents. There is a difference between the stated preferences of the market agents in the survey and the actual behaviour of the agents involved.

- Contrastingly, the **revealed preferences, or data approach**, entails the collection of actual data on the past behaviour of market participants, for the estimation of demand on all sides of the market based on past behaviour.[121] It involves market level data and consumer level data. The market level data represents the sales, prices and characteristics of the products offered on each side of the market, whilst the consumer

[117] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.52-58
[118] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.53
[119] Case 5901/184 BloemenveilingAalsmeer/ FloraHolland [2007]
[120] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.54
[121] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.54

level data represents the records of an individual's past actual choices as well as the individual consumer's characteristics. This collection and analysis of data not only allows for accurate behavioural data to be collected, but also allows for an individuals' choices to be related to its unique characteristics, upon which conclusion can be drawn.[122] The more precise data is collected, the more precise conclusions may be drawn from it. As revealed in the European Directories/Truo Nederland (2008)[123] case, such an approach requires a carefully designed econometrics analysis. A designated econometrics analysis provides fundamental answers, and estimates the correct econometric model of demand for all sides of a market.[124] However; this is a complex and time consuming process as the econometric model for the analysis of data must be fitted to the market at hand. [125]As pointed out by the OECD, competition authorities refrain from applying complex econometric methods particularly because of the time constraints that come with it.[126] Put differently, the analysis of collected data would need econometrics to set up a unique method of comprehension and evaluation of the data in order to allow a user-specific indirect network effect evaluation.[127] That said, once the data is correctly 'read', the revealed preferences approach enables the measurement of the size of actual indirect network effects, rather than hypothetical indirect network effects. In the event of a merger, the findings from the revealed preferences approach would be able to give us an estimated size of the network effects which must be used for the analysis of unilateral effects to be expected by a merger.[128]

Forthwith, a competition law assessment of a multi-sided market must employ a qualitative approach in order to properly indicate whether there are indirect network effects between the different sides of the market, as a first phase, and a quantitative approach to properly indicate the signs of these indirect network effects and their measurements (actual effects), as a second phase. These approaches together allow a correct assessment of the relevant market for competition investigations. Additionally, however, the market definition of a multi-sided

[122] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.55
[123] Case 6246 European Directories/TruvoNederland (2008), paras.105-106
[124] Aviv Nevo, *A Practitioner's guide to Estimation of Random Coefficients Logit Models of Demand*, 9 J.Econ. & Mgt. Strategy 513–548 (2000) - offers a basic explanation of the estimation procedure
[125] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.58
[126] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) pp.14
[127] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.57
[128] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.58

market especially requires to capture the specific structure of the market at hand. In principle, there are two alternative approaches to do so: defining a separate market for each customer group or defining a single market encompassing all customer groups.

Single Relevant Market or Multiple Relevant Markets?

First and foremost, the decision of whether a multi-sided market should be assessed on the basis of one single relevant market which encompasses all sides of the market; or on the basis of multiple relevant markets, one for each side of the market, must be decided on a case-by-case basis.[129] It is argued by the OECD, that given the analytical complexity of multi-sidedness, a holistic approach to market characteristics are most important in multi-sided markets;[130] However, depending on the transactional or non-transactional nature of the market, a different resolution to market definition will be applied. As a reminder, a transaction platform is characterised by the observable presence of a transaction between distinct customer groups (e.g. payment cards) and a non-transaction platform is characterised by the non-observability of a present transaction between distinct customer groups (e.g. social media platforms).[131]

A single market definition for a multi-sided market would means to define a market which encompasses all customer groups. Contrarily, a multiple market definition for a multi-sided market would mean to define a market for each customer, i.e. each side, of the market.[132]

The single or multiple market definition dilemma, must start by looking at the typology of the interactions facilitated by the platform.[133] What we must consider at first, therefore, is whether the interaction facilitated by the platform is unilateral or bi-/multi-lateral. If a platform facilitates a uni-lateral interaction[134], then the market definition for such an interaction, should

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[129] OECD, Directorate for Financial and Enterprise Affairs Competition Committee "*Market definition in multi-sided markets – Note by Sebatsian Wismer & Arno Rasek*" DAF/COMP/WD(2017)33/FINAL (June 21-23, 2017) pp.9
[130] OECD, Directorate for Financial and Enterprise Affairs Competition Committee DAF/COMP/WD (2017) 33/FINAL (June 21-23, 2017) pp.15
[131] Lapo Filistrucchi, Damien Geradin, Eric van Damme (2013), pp.40-41
[132] OECD, Directorate for Financial and Enterprise Affairs Competition Committee DAF/COMP/WD (2017) 33/FINAL (June 21-23, 2017) pp.15
[133] Daniel Mandrescu, '*Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)*', (2018), 41, World Competition, Issue 3, pp.453
[134] Daniel Mandrescu (2018) , 41, World Competition, Issue 3, pp.465 defines uni-lateral matching functionality as a one-directional positive indirect effect.

require multiple relevant market definitions.[135] This is because the interdependencies between the customer groups only comes from one group, i.e. one side of the market; and thus, only that one group or side is relevant for understanding the role interdependencies of that market. Contrastingly, if a platform concerns bi- or multi-latter matching functionalities[136], an in-depth analysis of its multi-sidedness must be conducted. This is because the questions of whether a single or multiple relevant market needs to be defined, will depend upon the substitutability assessment of all customer groups that are interconnected. That is to say, we must look at whether the customer groups can easily switch to another product offered by non-platform undertakings. If the assessment finds that the product is not substitutable to another product, because such product is available only through a platform undertaking, then it is justifiable to define a single relevant market for all interconnected customer groups.[137]

Generally, therefore, a single market definition approach should be employed if there is a platform with bi- or multi-latter matching functionalities (a transaction platform).A multiple market definition approach, instead, should be employed if the undertaking at hand is a platform with unilateral matching functionalities (a non-transaction platform). [138]

The underlying problem of defining market definition 'guidelines', for multi-sided markets in the digital era, is that online platforms do not have a predominant number of business models. Therefore, a tailor-made, case-by-case approach to market definition is the only way to correctly define the market.[139] There is no shortcut to a satisfactory one-fits-all approach. Multi-sided markets will always be subject to rigorous in-depth analysis of their multi-sided characteristics in order to ensure competitive satisfactory results.[140] Notwithstanding, multi-sided, zero-price, markets benefit from a easily changeable business model which usually

[135] Daniel Mandrescu (2018), 41, World Competition, Issue 3, pp.482
[136] Daniel Mandrescu (2018) , 41, World Competition, Issue 3, pp.465 defines bi- or multi-lateral matching functionality as an interaction between customer groups on a platform which is sought by all customers part of that interaction.
[137] Daniel Mandrescu, '*Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)*', (2018), 41, World Competition, Issue 3, pp.482
[138] OECD, Directorate for Financial and Enterprise Affairs Competition Committee DAF/COMP/WD (2017) 33/FINAL (June 21-23, 2017) pp.15
[139] Daniel Mandrescu, 'Applying (EU) Competition Law to Online Platforms: Reflections on the Definition of the Relevant Market(s)', (2018), 41, World Competition, Issue 3, pp. 461
[140] Gurkaynak, Gonenc et al. "*Multisided Markets and the Challenge of Incorporating Multisided Considerations into Competition Law Analysis*." *Innovation Law & Policy eJournal* (2016), p.30.

follows the newest fast-pacing advancements in technology. A tailor-made, case-by-case approach to market definition will thus still suffer from multiple challenges throughout the entire process. There is a required adaptation of the current practice for these fast-pacing multi-sided markets. Digital technology has not shown any desire of slowing down, and thus multi-sided markets either.

The Amex Case

The Ohio vs American Express case[141] (the "Amex case") is a ruling by the US Supreme Court. It is the first recognition of a two-sided market as a single relevant market.

In this case, the Supreme Court had to consider for the first time the ban of unreasonable restraints of trades, pursuant Section 1 of the Sherman Act[142], apply to two-sided platforms that bring together distinct customer groups. The case was initially decided by the District Court, which found anticomeptitive effects (a price increase) on one side of the two-sided platform. It then went to the Second Circuit which reversed the judgement of the District Court. Finally, it went to the Supreme Court which affirmed the judgement of the Second Circuit.

In this case, American Express allegedly imposed a vertical interbrand restraint, which is a form of an antisteering provision. Precisely, a vertical interbreand restraint consists of limitations to dealers in promoting or selling other competing products other than the brand owed by the firm imposing the restraint.[143] Amex had imposed such antisteering provision in its contracts with merchant.[144] It prohibited its merchants from discouraging customers from using their Amex cards at the point of sale. The following reasoning applied when introducing this vertical inerbrand restraint clause: in order to accept an Amex card, a merchant would have to pay an acceptance fee to Amex, which is usually a percentage of the transaction at hand. This percentage is known to be much higher than other credit card companies such as Visa or MasterCard, which would prone the merchant to incentivise the customer to pay with another credit card company by way of discounts or free delivery of the product or service they are purchasing. Amex imposed the antisteering rule in order to prevent the merchants from making such offerings to customers.[145] It prevented, specifically:

[141] Ohio v. American Express Co., 585 U.S. (2018), decided on the 24th of June 2018
[142] Section 1 of the Shareman Act prohibits agreements between two or more individuals or independent entities that unreasonably restrain trade (15 U.S.C.§1). Please see: Practical law ID 9-502-0833, available here: https://uk.practicallaw.thomsonreuters.com/9-502-0833?transitionType=Default&contextData=(sc.Default)&firstPage=true
[143] Hovenkamp, Herbert J., "Platforms and the Rule of Reason: The American Express Case" (2019). Faculty Scholarship at Penn Law. 2058 pp.36
[144] *Am. Express Co.*, 138 S. Ct at 2280
[145] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.43

"*... merchants from implying a preference for non-Amex cards; dissuading customers from using Amex cards; persuading customers to use other cards; imposing any special restrictions, conditions, disadvantages, or fees on Amex cards; or promoting other cards more than Amex. The antisteering provisions do not, however, prevent merchants from steering customers toward debit cards, checks, or cash.*"[146] (*Id. at 2283)*

The government alleged that the antisteering rule effectively obliged customers to stay with a higher priced card, increasing merchant fees and indirectly product prices as well.[147]
A big part of the debate revolved around how exactly should anticompetitive effects and market power be measured in the case of two sided platforms.[148] This debate stemmed from the decision of whether a single relevant market should be defined, or multiple relevant markets should be defined for antitrust purposes.[149]

The Court started by examining the market and what it actually meant for a platform to be two-sided. First of all, it established that it is a platform that depends on the relationship between two distinct, non-competing groups of customers. It also established that these distinct groups of customers are transaction partners[150], as the transaction is observable by the groups. Amex exhibited a one-to-one transactional correspondence.[151]

The court went on to highlighting the pricing structure, specifically, as it is a key characteristic of the market. Two-sided platforms need a well thought-out pricing structure, as maximising profits is possible only if it hits the "*sweet spot*"[152], i.e. the optimal mixture of participation and revenue on both sides. In these types of platforms, it is crucial to balance out participation levels and price levels.[153] Amex's balance was achieved by imposing an acceptance fee on merchants for the use of the Amex credit cards to buy their products and services; Whilst imposing a zero, if not even negative, cost on customers (cardholders do not pay a usage fee,

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[146] *Am. Express Co.*, 138 S. Ct *at 2283.* The Supreme Court describing what the antisteering rule prohibited
[147] Hovenkamp, Herbert J., "*Platforms and the Rule of Reason: The American Express Case*" (2019). Faculty Scholarship at Penn Law. 2058 pp.44, please also see: *Am. Express Co.*, 138 S. Ct at 2288–89.
[148] (2019). Faculty Scholarship at Penn Law. 2058 pp.37
[149] *Am. Express Co.*, 138 S. Ct at 2285–86; *id.* at 2300–01: Judge Breyer, dissenting - he did not believe that because a platform is two sided, it should mean that a single relevant market should be defined.
[150] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.37
[151] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.42
[152] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.38
[153] Hovenkamp, Erik, *Platform Antitrust*, 44 J. CORP. L. (forthcoming 2019) (manuscript at 11–13), note 15 at p.13

rather, ownership of the card allows them to access the perks for purchases made with it).[154] Put differently, the indirect network effects exhibited by the Amex platform made it so that it charged one side much more than the other.[155]

Ultimately, the Supreme Court considered all unique elements in order to make a market delineation for antitrust purposes.[156] In order to do so, it came to the conclusion that one single relevant market was to be defined for Amex. This is because making a transaction through Amex, required both sides of the market.[157] Therefore, in order to correctly assess the competitive effects of a two-sided transactional platform, it would require both sides to be evaluated.[158] The distinct products and services offered by Amex to the distinct customer groups have to essentially be 'put together' in a single relevant market.[159] An assessment of competitive effects analysis of Amex's antisteering agreements needed to take into account the collective effect of the restraint on the credit-card market, this means taking into account the customer side of the market as well as the merchant side of the market.[160]

In examining the case from the perspective of the credit-card market as a whole, rather than just from the point of view of the merchant side of the market, the Court held that Amex's antistreering provisions did not unreasonably restrain trade.[161] The antisteering provision had to be proven to either (i) increase the price of credit-card transactions above a competitive level, or prove that (ii) it stifled competition in the credit-card market.[162] In <u>not</u> narrowing down the relevant market to the merchant side of the market, it was found that:

For (i), the rising merchant fees were not caused by Amex's antisteering provision itself, but rather by some industry-wide trends[163]; And that for (ii), other evidence such as the fact that a merchants' unwillingness to take Amex cards (if there was no antisteering provision) would dissuade the cardholder from using its card in all other locations, and that Amex's competitors

[154] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.41
[155] McFalls S.M., Popofky S.M., Khatib K., "Supreme Court's Decision in Amex: Summary and Potential Implications" (June 26, 2018), pp.1
[156] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.46
[157] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.57
[158] Ohio v. Am. Express Co., 138 S. Ct. 2274, 2286 (2018)
[159] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.57
[160] McFalls S.M., Popofky S.M., Khatib K., "Supreme Court's Decision in Amex: Summary and Potential Implications" (June 26, 2018) pp.1
[161] McFalls S.M., Popofky S.M., Khatib K., (June 26, 2018) pp.2
[162] McFalls S.M., Popofky S.M., Khatib K., (June 26, 2018) pp.2
[163] McFalls S.M., Popofky S.M., Khatib K., (June 26, 2018) pp.2 - explains that the Court had uncovered a dramatic 30% increase in credit-card transactions from 2008 to 2013.

exploited their higher merchant fees by lowering their merchant fees, it indicated that Interbrand competition had, contrarily, increased. The plaintiffs had essentially failed to prove that the antisteering provision had anticompetitive effects[164] on both sides of the market.[165]

It must be noted that such approach is not applicable to markets where the platform is a non-transaction type of platform. If there is no transaction-specific relationship between the sides of a market, it is not justifiable for defining one single relevant market.[166] This emphasises that depending on the type of market, and the type of transaction it may facilitate, antitrust assessment must take in considerations the specificalities of a multi-sided market.

The US Supreme Court is comfortable with developing legal concepts in line with the economic one. Not only do we see it in the case at hand here (the Amex case) but also int the reasoning of the Supreme Court in the *Marvel Entertainment case.* [167] The court in Brown Shoe Co Case[168] also pointed out that the definition of the relevant must correspond to commercial realities of the industry. The Supreme Court is not afraid of relying on current economic thought in order to evolve legal concepts.[169] It allows for legal interpretation to give the law the flexibility that it needs in order to adapt to changing circumstances, such as the rise of complex digital markets. It sets the example that it is impossible to have a purely legal or purely economic market definition within competition law.[170] The relevant market is not an aim itself, but rather a concept that is put on a spectrum between law and economics.

[164] Following the customary three-step burden-shifting rule of reason analysis, i.e. proof of anti competitive effect.
[165] McFalls S.M., Popofky S.M., Khatib K., (June 26, 2018) pp.3
[166] Hovenkamp, Herbert J. (2019). Faculty Scholarship at Penn Law. 2058 pp.54
[167] *Kimble v Marvel Entertainment* 576 US _ (2015), 135 SCt 2401, 2413 (2015)
[168] *Brown Shoe Co.* v. *United States*, 370 U. S. 294, 336– 337 (1962) - referred to also in point 12 of the Court's Opinion of the Amex case.
[169] Robertson, Viktoria H.S.E., The Relevant Market in Competition Law: A Legal Concept (January 30, 2019). Journal of Antitrust Enforcement, Vol. 7, 2019, pp.12
[170] Robertson, Viktoria H.S.E., The Relevant Market in Competition Law: A Legal Concept (January 30, 2019). Journal of Antitrust Enforcement, Vol. 7, 2019, pp.17

The Evaluation of the Market Definition Notice

On the 12th of July 2021, the European Commission published a Staff Working Document setting out the results of its evaluation of the Commission's Notice on the relevant market for the purposes of Community Competition[171]. This chapter illustrates the Commission's analysis and strategy employed for the evaluation of the Notice, and the findings of that same evaluation.

Purpose and scope

The commission issued an evaluation of its own commission notice 1997 in order to assess whether the notice is still "fit for purpose" in light of the developments of the digital market since its adoption. The assessment is based on five evaluation criteria[172]:

1. **Effectiveness**: whether the notice has effectively provided guidance and transparency to all stakeholders, taking into account the evolving qualitative and quantitative approaches to the relevant market.
2. **Efficiency**: whether the notice has efficiently provided guidance and transparency on the relevant market to undertakings and the competent competition authorities, i.e. whether it was put in sufficiently clear terms to ensure guidance and transparency in a way that it has increased benefits and reduced costs.
3. **Relevance**: whether the guidance and transparency offered by the 1997 notice is still pertinent to the changing economy of the EU, i.e. it is still pertinent in assessing competitive effects in today's economy.
4. **Coherence**: whether the different components set out in the notice are relevant and coherent to each other, but also whether there is coherence between the notice's guidance and European jurisprudence, i.e. the notice is in line with the judgements of the European courts, as well as current EU competition policy.
5. **EU added value**: whether the notice has contributed to ensuring a consistent approach to the definition of the relevant market by both the commission and European NCAs.

[171] OJ C 372, 9.12.1997 Commission's notice on the definition of the relevant market for the purposes of Community competition law
[172] Ref. Ares(2020)1911361 - 03/04/2020 - *The evaluation Roadmap,* pp.1-2

Ultimately, it delivers an in-depth evaluation of the Notice's objectives fulfilments. In looking at whether the notice has fulfilled its objectives of guidance of transparency, it also suggests the need of an update in light of the developments of the economy. That is to say, the need of a new notice for the guidance and transparency on the definition of the relevant market by the commission which reflects the digitalisation and globalization of the economy.

Strategy

The evaluation is done through a consultation strategy[173]. The Commission published a set of questions regarding the Notice for public consultation and for private consultation (targeted consultation of national competition authorities). The Commission also held a conference/workshop with technical experts and representatives of all main stakeholders in today's economy for their input on the review of the market definition notice. The Commission further sent a smaller questionnaire to national competition authorities outside of the EU[174] as well for comparative purposes.

Data collection and methodology

The evaluation on the basis of the effectiveness, efficiency and relevance of the Notice is done through an analysis of the jurisprudence of the EU courts and the Commission's decision since 1997 with the aim of identifying pertinent methodologies and approaches to market definition. Additionally, a comparative approach will be employed.[175] Precisely, reference to the latest economic thinking on market definition and practice, at international level, will be made. Additionally, it analyses the notice against new technical and market developments that have arisen through the digitalization and globalization of the economy. Such approach shall be used for the evaluation of the notice on the basis of coherence as well, with an emphasis on its coherence with EU jurisprudence and competition policy.

[173] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.18-20
[174] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.18 - Namely, Australia, Brazil, Canada, Japan, Korea, South Africa, the UK and the US.
[175] Ref. Ares(2020)1911361 - 03/04/2020 - *The evaluation Roadmap,* pp.1-2

Contrastingly, the evaluation of the notice on the basis of the EU added value is concentrated on the discussions carried out by the competition authorities of the EU member state in the framework of different Working Groups of the European Competition Network and of the information gathered with the public consultation questionnaire.

The Evaluation of the Notice

The evaluation of the market definition directive recognizes that the notice aims to codify robust best practices for market definition.[176] However, in doing so it faces the risk of its guidance to not be suited for future developments, i.e. the current state of the economy.[177]

Referring to the current state of the economy, the Commission Staff Working Document identifies five major market developments and evolutions in competition assessment since 1997, that is the adoption of the Notice:

1. The digital economy's share has increased to an exceptional 15% of global GDP in 2019 (UNCTAD (2019), Digital economy report) which highlights the upward trends of digital activities or e-commerce goods and services. This obviously being strengthened by the COVID-19 pandemic which incentivised further the use of search engines, social media and other online goods and services to consumers.[178]
2. The high level of concentration of economic power in digital markets: For almost 10% of companies, online platform sales exceed 75% of all revenues, https://platformobservatory.eu/state-of-play/power-over-users/. The top seven large platforms make up 69% of the total EUR 6 trillion valuation of the platform economy.[179]
3. Increased tendency of companies integrating unrelated products, which reflects the unrelated technologies, products and services becoming closely integrated as they develop and advance.[180]

[176] SWD (2021) 199 final, Commission Staff Working Document, *Evaluation of the Commission notice on the definition of relevant market for the purposes of the Community competition law of 9 December 1997* (Brussels, 12.7.2021)- pp.10
[177] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.13
[178] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.13
[179] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.13
[180] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.14 and OECD (2016), Digital convergence and beyond.)

4. Increased societal awareness of innovation-related effects. This results in the need of taking into account an undertaking's innovation effort in order to define its relevant market and assess competitive effects in relation to innovantion.
5. Increase of economic globalisation: mergers of cross-border nature have increased from 36% to 58% from 2004 to 2013.[181]

Having highlighted the difference in the state of the economy between the adoption of the Market Definition Notice, and 23 years later; the results of the evaluation are done on a one-by-one basis, referring to the Effectiveness, Efficiency, Relevance, Coherence and EU added value criteria. These are presented below.

Relevance

The Commission asked whether the Market Definition Notice stills pursue relevant objectives regarding the Commission's antitrust and merger assessments, and how these objectives correspond to the current needs.[182]

The results from this question showed that the need to facilitate competition enforcement and compliance in the internal market, to the benefit of consumers, remains pertinent. The objective of providing transparency is still very relevant and in some respects, is even more relevant today than in 1997. [183] This is resulting the antitrust self-assessment system that has been put in play since 2004, and the use of market share thresholds for the purposes of antitrust and merger control.[184]

Effectiveness

The Commission asked to what extent the Market Definition Notice has proven effective in providing a correct, comprehensive and clear guidance on market definition today.[185]

[181] SWD (2021) 199 final, Commission Staff Working Document, (Brussels, 12.7.2021)- pp.14, see also DG Competition, 'Market definition in a globalised world', *Competition policy brief*, Issue 2015(12), 2015
[182] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.24
[183] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.25
[184] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.67
[185] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.30

The results from these evaluation questions showed that although the Market Definition Notice generally provides correct, comprehensive and clear guidance on the role of market definition in competition law proceedings, it does not reflect all the advancements done in the Commission's practice in this respect since 1997.[186] In other words, it is effective in providing guidance and transparency to stakeholders in many respects, but not necessarily in all. Specifically, in terms of the definitions and basic principles of assessing substitutability, the current approach is correct and effective, as it is still in line with EU case law and international consensus.[187] However, in terms of assessing substitution with the SSNIP test, limitations are recognised. Notably, the 'cellophane fallacy'[188] limitation is brought to attention in the questionnaire answers, as well as the inadequacy of the test faced with the fast-paced dynamics in digital markets. Some respondents even suggested for competitive authorities to rely on the SSNDQ[189] (the Small but Significant Non-Transitory Decrease in Quality) test in order to accommodate these dynamics in digital markets. This SSNDQ test was, for instance, already used by the commission in the Google Android case[190]. Other respondents even suggested the use of the SSNIC (Small but Significant Non-Transitory Increase in Cost) test for assisting market definition of multi-sided/zero-price markets. All the same, the role of indirect network effects for the correct definition of a multi-sided market was highlighted by respondents, upon which the Evaluation stated that "*the evaluation results suggest that the Notice lacks explanations on the process of defining markets in industries characterised by rapid technological progress, where newly developed products, services or processes change existing competitive dynamics*"[191].

The unsuccessful effectiveness of the Market Definition Notice seems to stem from the fact that there are no explicit references to the phenomena found in digital markets; namely, the multi-sidedness of platforms, their often zero-price strategies and the treatment of data as a valuable resource.[192] It is stressed that recognition of the increasing importance of data and

[186] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.32
[187] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.35
[188] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.37: the SSNIP test is "inadequate for concentrated markets where existing prices may be above the competitive level".
[189] The **SSNDQ** test was suggested by the OECD in 2013 for market definition purposes. It would be used for markets with rapid technological change, providing an objective criterion to be applied by competition authorities and courts. The SSNDQ test was applied in the case of Qihoo 360 v TenCent in the Supreme People's Court of China (Evans and Zhang 2014).
[190] AT.40099 – Google Android
[191] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.40
[192] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.54

their effects must be reflected by a Notice for the guidance on relevant market definition.[193] Same applies for zero-price markets which is not indicated as a platforms' profit maximising strategy[194].

It seems that the effectiveness of the Market Definition Notice is diminished by unchanged principles for market definition which are inapplicable, or drive us to incorrect conclusions, when dealing with: (i) multi-sided markets, especially when supplied at a zero monetary prince; (ii) markets that can be defined as 'ecosystems' for data; and (iii) market players that act only online.[195] The principles are unable to evolve with the fast-pacing technological advancements, as they do not provide enough room for interpretation.

Efficiency

Efficiency was assessed by asking whether the Notice had led to increased benefits and reduced costs, and whether there is space for further simplification and cost reduction.[196]

The Evaluation results on efficiency showed that the Notice generates benefits for both the Commission and the stakeholders using it. This is because it clarifies the principles applied by the Commission when defining markets, and most importantly, the elements it will use for defining markets. The reduced costs from the point of view of the stakeholders include a reduced cost in external legal assistance by providing transparency in processes and relevant elements to market definition, as well as the reduced infringements of competition law stemming from incorrect assessment of the undertaking's market positions. Although these reduced costs are not quantified, they are said to be significant.[197] It must be said, however, that further simplification and cost reduction has been indicated by respondents.[198] This would

[193] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.55: as the commission deals with markets that are data-related, see: M.4726 – Thomson Corporation/Reuters Group; and big digital players, see: M.4731 – Google/DoubleClick, M.7217 – Facebook/WhatsApp, M.8124 – Microsoft/LinkedIn and AT.39740 – Google Search (Shopping), and markets that are digital map databases, see: M.4854 – TomTom/Tele Atlas

[194] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.55: the commission adopts the position that a market exists even when a product is offered for "free", but this isn't reflect in the notice. Please see the Commission's position in AT.37792 – Microsoft, AT.39740 – Google Search (Shopping), AT.40099 – Google Android, M.6281 – Microsoft/Skype, M.7217 – Facebook/WhatsApp and M.8124 – Microsoft/LinkedIn

[195] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.68

[196] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.57

[197] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.57

[198] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.60 - the Evaluation makes direct reference to Section 5.2 on Effectiveness.

be done by providing a higher level of transparency on certain specific points which include, yet again, (i) multi-sided markets, especially when supplied at a zero monetary prince; (ii) markets that can be defined as ‘ecosystems’ for data; and (iii) market players that act only online.[199] Additionally, it is expressly stated that further simplification and cost reduction would be enhanced if quantitative tools[200] applied to the market definition assessment of digital and innovation-driven markets.[201]

Coherence

Coherence of the Market Definition Notice was assessed by asking whether the different components of the Notice operated well, and in line, together with the judgement of the European Courts (both the EUCJ and the national courts), as well as whether the Notice is not contrary to the changes in the legal competition framework or other instruments of EU competition policy or other policies. [202]

The evaluation results indicated that the Market Definition Notice exhibits internal coherence and thus operates well.[203] It also indicated that it is in line with other antitrust and merger guidance by providing consistency with other instruments such as the Horizontal and Vertical Blok Exemption Regulations and the other instruments based on Articles 101 and 102 TFEU.[204] As well as being in line with principles set out in case law and EU policies.[205] However, the evaluation also pointed out that the Notice does not reflect the current line of judgements of the EUCJ and the updated standard of ‘significant impediment to effective competition’[206] for merger control.[207]Again, the evaluation respondents highlighted the important that the Notice is fit for purpose in a way that it is in line with the Commission’s Digital Agenda.[208]

[199] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.68
[200] Please refer to chapter 5, p.25-27 of this paper for further information
[201] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.60
[202] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.60
[203] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 61
[204] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 62
[205] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 60
[206] Introduced by the Council regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings (the EC Merger Regulation)
[207] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 61
[208] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 64

EU Added Value

The Notice's EU Added value was assessed by asking whether and to what extent the Notice contributed to a consistent approach to market definition by the Commission and the EU national competition authorities.[209]

The evaluation results indicated that the Notice has added substantial value for both enforcers, that is national competition authorities, and for stakeholders overall. It has added value because the Notice has added value from the perspective of aligned methodology by national competition authorities. It aligns national competition laws by influencing the way in which markets are defined in applying national competition laws. However, this alignment would be enhanced if the Notice was up-to-date with the current state of the economy. This is to say that the evaluation has also revealed that the Notice does add value as long as it is not used for guidance for market definition questions in relation to new business models or changing business environment.[210] In that case, the Notice is a useful starting point on how market definition could be faced, but it actually adds complexity rather than value if used for guidance. The Evaluation directly quotes one of the business stakeholders that completed the open consultation:

"*The notice as it is currently drafted avoids the pitfall often blamed on new legal texts for focusing on specific cases, unnecessarily complicating the rules and making them harder to understand. Completing and adapting the Notice to the new challenges faced by many market[s] with the digitalisation and globalisation should not lead to a loss of this quality*"[211]

Put differently, because the Notice does not reflect the current globalisation and digitalisation of the economy, which evidently entails the rise of more complex markets, it leaves the assessment of anticompetitive behaviour in the digital sector to being resolved through the use of new legal texts on specific cases, evolutions in the EU Court's case law, and refinements to the Commission's case practice that may not always be coherent with one another. The point is that there is a void left by the Notice in not providing guidance and transparency that is

[209] SWD (2021) 199 final (Brussels 12.7.2021) - pp. 64
[210] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.65
[211] SWD (2021) 199 final (Brussels, 12.7.2021) pp.66 - Reply of a business organisation to question VI.1.1 of the public consultation questionnaire

applicable to undertakings in the digital sector. This clearly does not add any value to the 'establishing of the competition rules necessary for the functioning of the internal market'[212].

The Overall Evaluation Results

Overall, the evidenced gathered in the Evaluation points towards the evolution of EU competition law application in a way that better serves the current needs of the digital economy.[213] The Notice is not said to be incorrect, or inappropriate in terms of providing transparency on important aspects of the Commission's competition assessments. The objectives of the Notice remain highly relevant. However, it is said of not being able to fully reflect developments in the best practices for market definition. This is because it does not effectively reach the objectives in a way that accommodates the current growth of the digital economy, and the need of consumer welfare protection from that growth.[214] This is highlighted especially in the results of the evaluation on the basis of Effectiveness and EU added value.

Unfortunately, there is no mention as to how the falling short of the Market Definition Notice in terms of providing guidance and transparency to actors in the digital sectors will be remedied. Nor is it mentioned whether we should expect a 'reform' or new version of the Notice on the relevant market definition that is more reflective of the current market developments since 1997. Nevertheless, it seems quite obvious that an updated version of the assessment of market definition is needed.

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[212] Article 3 of the Treaty on the Functioning of the European Union (TFEU)
[213] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.66
[214] SWD (2021) 199 final (Brussels, 12.7.2021)- pp.67

Conclusion

In this paper, I have analysed the current state of the market definition tools for the purposes of European competition law with regards to the rise of complex digital markets.

Complex digital markets take the form of multi-sided and/or zero-priced markets which are inherently incompatible with the current traditional tools of EU competition law. This is because the traditional tools used for market definition, namely the SSNIP test, are based on one-sided markets assessments and are unable to account for the characteristics of such complex business models. The characteristic of a multi-sided market is that it connects distinct customer groups; also referred to in this paper as 'interdependency' or 'indirect network effects'. Zero-price markets are inherently multi-sided, as their characteristic also depends on the interdependency the platform creates. However, it adds a well-thought out pricing structure, where only one 'side' of the platform is charged. In the fourth paragraph, I introduced the qualitative and quantitative approaches that may be employed for the correct assessment of such complex markets. Particularly, I discussed how a single relevant market definition is justified only if the platform at hand is a transaction platform, while it may not be justified for a platform that is non-transactional. This means that a non-transactional multi-sided market would need to be assessed, for the purposes of competition law, by defining separate relevant markets for each side of the market, i.e. each customer group of the platform. This view is reinforced by the Ohio v Amex case, discussed in the fifth chapter of this paper. A multi-sided market was defined as one relevant market in order to deliver a correct competition law assessment. It goes without saying that the correct assessment of multi-sided and zero-price markets would enhance customer welfare. As mentioned by John M Newman (2015): "*to continue to ignore welfare harms in these markets would be both unjust and inefficient*"[215].

In the seventh chapter of this paper, I presented and summarised the Evaluation of the Commission's notice on the definition of the relevant market for the purposes of Community competition law published in 1997. The evaluation results were clearly pointing at the need of an update of the market definition principles and elements, which permit the application of a correct market delineation for multi-sided, and zero-price markets as well.

To conclude, it seems that the EU Commission refuses to abandon traditional competition tools, as these have proven to be the correct tools for the purpose of competition law analysis.

[215] John M Newman, '*Antitrust in Zero-Price Markets: Foundations*", University of Pennsylvania Law Review 164, Issue 1 (December 2015) pp.150

However, it recognises their ineffectiveness before the rise of complex digital markets. Even more so now, since the publishing of the Evaluation of the Relevant Market Notice 1997. The principles of market definition do not fully address the additional complexities found in digital contexts; thus, its practices must evolve. The question remains: to what extent?

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