Competition Law's Innovation Factor

The Relevant Market in Dynamic Contexts in the EU and the US

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Introduction

There is no subject in antitrust law more confusing than market definition.[1]

The importance of market delineation for antitrust can easily be likened to the importance of the tennis court in tennis: for competition law purposes, the relevant market stakes out the playing field upon which competition law provides the rules of the game, and competition law judges act as referees. The competitive constraints that the market players face are used as the playing field's demarcation lines. If market behaviour affects issues that lie outside of the playing field, the line umpire signals an 'out' and competition law does not apply.

In order to decide whether a ball was inside or outside the court, tennis provides for certain procedures. The same is true of competition law, where the judge must determine whether behaviour occurred on a relevant market or not. On clay courts, the chair umpire may carry out ball mark inspections.[2] Similarly, some competition law judges directly delineate the market by relying on the evidence brought before them. On a hard court, chair umpires may rely on hawk-eye or other line calling assistance. In competition law, judges may rely on economic experts to illuminate questions of fact pertaining to market definition. What unites tennis and competition law is that in tennis, '[t]he referee is the final authority on all questions of tennis law',[3] including on deciding whether the ball was in or out. In competition law, it is the judge who is the final authority on all questions of competition law, including on deciding whether market behaviour took place on the relevant market or outside of it.

Different types of courts – be they clay, carpet, grass or hard courts – require different skills for line calls, just like different market environments in competition law do. In antitrust, this is particularly true of highly dynamic markets in which innovation plays a decisive role. When the playing field is innovative, it is frequently uncertain where the demarcation lines should be. The line umpires are at a loss. This is the question addressed in the present volume. While tennis has

[1] *US Healthcare v Healthsource*, 986 F2d 589, 598 (1st Cir 1993). In this study, the terms 'market delineation' and 'market definition' are used interchangeably, as are the terms 'competition law' and 'antitrust law'.

[2] International Tennis Federation, 'ITF Rules of Tennis' (2012) Appendix V.

[3] ibid.

achieved unification on line calls through the International Tennis Federation's Rules, transnational competition law lacks harmonisation and thus encounters the added complexity of different jurisdictions relying on (sometimes only slightly) different rules for market delineation, even where they relate to the same innovative market – one and the same game, so to speak.

The present study turns to two antitrust jurisdictions that are globally significant, namely the US and the EU. It compares their market definition frameworks as applied in dynamic contexts, thereby encountering a multitude of legal and economic approaches. After disassembling and comparatively re-organising both frameworks, consideration is given to the question of whether and how convergence of all or some parts of these frameworks could increase legal certainty and more accurately depict innovation to the benefit of consumers across the globe.

I. Innovation and the Relevant Market: The Issues at Stake

The relevant market is one of the most complex and contentious legal concepts in competition law, particularly in innovative market environments. While market definition merely serves as an analytical tool for antitrust purposes,[4] the analytical tools we employ may well determine the outcome. Drawing on economic insights, market definition attempts to determine substitutability amongst products, both from a demand and from a supply perspective.[5] It positions the legally relevant market within actual economic activity, while at the same time setting out which area of economic life is legally relevant for the antitrust assessment. As such, it provides the analytical framework for any antitrust analysis,[6] perhaps even representing antitrust's 'analytical core'.[7]

Courts, antitrust authorities and scholars alike have repeatedly emphasised the unparalleled importance of market definition for antitrust cases.[8] The reason for this importance is, quite simply put, that a company's market behaviour cannot properly be legally assessed in the abstract, but only with reference to the

[4] MR Baye, 'Market Definition and Unilateral Competitive Effects in Online Retail Markets' (2008) 4 *Journal of Competition Law & Economics* 639, 652.

[5] ABA Section of Antitrust Law, *Market Power Handbook: Competition Law and Economic Foundations*, 2nd edn (Chicago, ABA Publishing, 2012) 63.

[6] This wording is based on M Blaschczok, *Kartellrecht in zweiseitigen Wirtschaftszweigen: Eine Untersuchung vor dem Hintergrund der ökonomischen Forschung zu 'two-sided markets'* (Baden-Baden, Nomos, 2015) 55.

[7] DA Crane, 'Market Power without Market Definition' (2014) 90 *Notre Dame Law Review* 31, 33.

[8] R Pitofsky, 'New Definitions of Relevant Market and the Assault on Antitrust' (1990) 90 *Columbia Law Review* 1805, 1807; *Eastman Kodak v Image Technical Services*, 504 US 451, 469 fn 15 (1992); European Commission, Notice on the definition of relevant market for the purposes of Community competition law [1997] OJ C372/5 (EU Market Definition Notice 1997) para 4.

market(s) in which the company is active:[9] the relevant market(s). The soundness of antitrust market definition has a direct impact on the quality of antitrust law as such.[10] While some regard market definition and the ensuing market power analysis as necessarily conflated,[11] the present research focuses on market definition as a separate analytical step, thus essentially ascribing a standalone value to market definition. This focus can again be understood against the metaphor of line calls in tennis: where competition law is not even sure what the relevant market is, it cannot properly judge whether the game that is being played by market participants is pro- or anti-competitive. In order to do so, it must first set out to delineate and thoroughly understand that playing field.

Market definition is the foundation that subsequent antitrust analysis builds upon. Relying on market analysis presupposes two steps: the identification of the companies that are catering to a particular customer demand, and based thereupon the analysis of competition on that market.[12] Depending on the competition conditions prevailing in the relevant market, antitrust authorities may or may not have competition concerns. The position of a company in the relevant market can have a plethora of consequences under antitrust law, including the application of stricter antitrust rules if a company is found to enjoy significant market power. Therefore, it is of crucial importance to define the relevant antitrust market in a predictable, coherent way. However, market definition as such is 'hardly an exact science',[13] facing companies with legal uncertainty in antitrust matters. This problem is exacerbated in highly dynamic market environments, as market definition gives but a snapshot of economic reality.

In economics, it is believed that, in the long run, dynamic competition – or innovation – can generate greater consumer welfare than static competition.[14] This insight has become widely accepted in antitrust,[15] even if its consequences for antitrust law are not yet fully understood. As a first step, however, it is clear

[9] D Cameron, MA Glick and D Mangum, 'Comments on Articles in the Kaplow Special Issue' (2012) 57 *Antitrust Bulletin* 957, 960; L Peeperkorn and V Verouden, 'Market Definition' in J Faull and A Nikpay (eds), *The EU Law of Competition*, 3rd edn (Oxford, Oxford University Press, 2014) § 1.134.

[10] RJ van den Bergh and A Giannaccari, 'L'approcio più economico nel diritto comunitario della concorrenza: Il più è troppo o non (ancora) abbastanza?' (2014) XVI *Mercato concorrenza regole* 393, 425.

[11] For instance, see L Kaplow, 'Why (Ever) Define Markets?' (2010) 124 *Harvard Law Review* 438.

[12] MB Coate and JH Fischer, 'Is Market Definition Still Needed after All These Years' (2014) 2 *Journal of Antitrust Enforcement* 422, 428.

[13] D Waelbroeck, 'Vertical Agreements: 4 Years of Liberalisation by Regulation N. 2790/99 after 40 Years of Legal (Block) Regulation' in H Ullrich (ed), *The Evolution of European Competition Law: Whose Regulation, Which Competition?* (Cheltenham, Edward Elgar, 2006) 87.

[14] See JA Schumpeter, *Capitalism, Socialism and Democracy*, 5th edn (London, Allen & Unwin, 1976) 84 f; JG Sidak and DJ Teece, 'Dynamic Competition in Antitrust Law' (2009) 5 *Journal of Competition Law & Economics* 581, 600.

[15] O Kolstad, 'Competition Law and Intellectual Property Rights: Outline of an Economics-Based Approach' in J Drexl (ed), *Research Handbook on Intellectual Property and Competition Law* (Cheltenham, Edward Elgar, 2008) 4; HJ Hovenkamp, 'Antitrust and Innovation: Where We are and Where We Should Be Going' (2011) 77 *Antitrust Law Journal* 749, 751.

that the proper use of market definition in innovative environments is a necessary precondition for applying antitrust law to the long-term benefit of consumers.[16] There is widespread concern that traditional antitrust tools may focus too much on static market conditions, price and homogeneous products, thus leading to a competition analysis that cannot properly take into account product diversification, future products and innovation competition.[17] In dynamic market environments, innovation regularly overthrows the current market order and pushes the limits of the relevant market. This aspect of innovative markets needs to be analysed with legal certainty in mind.

Innovation as understood in the present context refers to new or significantly improved products or processes.[18] This includes the digital markets that are currently at the forefront of many policy discussions both in the EU and in the US,[19] but is much broader than that. Any industry that exhibits significant dynamic characteristics is included in this definition, covering innovation in production, in service provision and extending to self-driving cars and the pharmaceutical industry. The dynamic characteristics of innovative industries face market definition with a number of important challenges,[20] as the analytical framework for market definition was developed in static rather than in dynamic environments. These challenges revolve around the fast-moving nature of dynamic industries, the importance of potential competition and intellectual property rights in innovative markets, innovation rather than price as the most important parameter of competition in these markets, multi-sided platforms, innovative and proprietary aftermarkets, and network effects that are at play in dynamic environments. A rich body of literature cautions that the dynamic characteristics of innovative markets must be taken into account in antitrust law.[21] Such an innovation-conscious approach necessarily needs to begin with market definition.

In the EU, it is understood that the delineation of a relevant market is a crucial aspect of competition analysis.[22] In its case law, the Court of Justice of the European

[16] International Competition Network, 'Competition Enforcement and Consumer Welfare – Setting the Agenda' (May 2011) 19 f.

[17] J Drexl, 'Anticompetitive Stumbling Stones on the Way to a Cleaner World: Protecting Competition in Innovation without a Market' (2012) 8 *Journal of Competition Law & Economics* 507, 508; MA Lemley and MP McKenna, 'Is Pepsi Really a Substitute for Coke? Market Definition in Antitrust and IP' (2012) 100 *Georgetown Law Journal* 2055, 2058.

[18] See ch 3, section I.

[19] For instance, see European Commission, Conference on 'Shaping Competition Policy in the Era of Digitisation' (Brussels, 17 January 2019); Federal Trade Commission, 'Hearings on Competition and Consumer Protection in the 21st Century' (2018–19), www.ftc.gov/policy/hearings-competition-consumer-protection.

[20] RC Lind and P Muysert, 'Innovation and Competition Policy: Challenges for the New Millennium' (2003) 24 *European Competition Law Review* 87, 88.

[21] See JG Sidak and DJ Teece, 'Rewriting the Horizontal Merger Guidelines in the Name of Dynamic Competition' (2009) 16 *George Mason Law Review* 885, 894; GA Manne and JD Wright, 'Innovation and the Limits of Antitrust' (2010) 6 *Journal of Competition Law & Economics* 153; J Galloway, 'Driving Innovation: A Case for Targeted Competition Policy in Dynamic Markets' (2011) 34 *World Competition* 73.

[22] EU Market Definition Notice 1997 (n 8) para 4.

Union (CJEU) has confirmed that the product and geographical dimensions of the relevant market must be established for antitrust analysis,[23] and that particular regard must be had to demand and supply substitutability.[24] The General Court regards market definition as the first analytical step for any case in which an infringement of Article 102 of the Treaty on the Functioning of the European Union (TFEU)[25] is postulated. This is so because the abuse of a dominant position is conditional upon the existence of such a dominant position, and finding a dominant position on a relevant market in turn presupposes market definition.[26] The European Commission has issued several binding block exemption regulations for certain categories of agreements that are not subject to scrutiny under Article 101 TFEU – provided certain market share thresholds are not surpassed.[27] These market share thresholds require the calculation of market shares on a previously defined relevant market.

In 2015, Margrethe Vestager, the Commissioner for Competition, reminded the antitrust community of how vital market definition is to EU competition law,[28] as it represents the first step in virtually any European competition law case. The European Commission as the EU's leading competition authority has published numerous (non-binding) Notices and Guidelines that elaborate on that authority's approach to market definition. This soft law represents the Commission's interpretation of the Treaty provisions on competition law and the case law relating to them. Although the Commission's understanding is subject to the EU Courts' interpretation,[29] the General Court has held that 'in so far as the definition of the product market involves complex economic assessments on the part of the Commission, it is subject to only limited review by the [EU] judicature'.[30] This results in the Commission enjoying considerable autonomy and thus weight in questions of market definition.

The Commission is acutely aware of the need to assess relevant markets in their particular context. Amongst other things, this is evidenced by its Guidelines on Horizontal Co-operation, which contain separate sections dealing with market definition for specific types of agreements. For research and development (R&D) agreements, for instance, the Commission urges that market definition might need

[23] Case 27/76 *United Brands v Commission* EU:C:1978:22, para 10. Together, the CJEU and the General Court (previously the Court of First Instance) are referred to as EU Courts.

[24] Case 85/76 *Hoffmann-La Roche v Commission* EU:C:1979:36, para 28; Case 6/72 *Europemballage and Continental Can v Commission* EU:C:1973:22, para 33.

[25] Consolidated Version of the Treaty on the Functioning of the European Union [2016] OJ C202/47 (TFEU). The following uses the current appellation of the TFEU articles, even when discussing events that occurred before the renumbering by the Treaty of Lisbon in 2009.

[26] Case T-62/98 *Volkswagen v Commission* EU:T:2000:180, para 230.

[27] On these, see ch 2, section II.B.

[28] M Vestager, 'Thoughts on Merger Reform and Market Definition' (Studienvereinigung Kartellrecht, Brussels, 12 March 2015).

[29] EU Market Definition Notice 1997 (n 8) para 6.

[30] Case T-301/04 *Clearstream v Commission* EU:T:2009:317, para 47; Case T-201/04 *Microsoft v Commission* EU:T:2007:289, para 482.

to include existing product markets, existing technology markets and also the agreement's influence on competition in innovation.[31] In its Technology Transfer Block Exemption Regulation, it distinguishes separate product and technology markets that, combined with the relevant geographical markets, make up the relevant market for the purposes of that regulation.[32] This paves the way for relying on innovation-specific considerations in delineating antitrust markets.

In the *Microsoft/Skype* case, both the Commission (2011) and the General Court (2013) were prepared to accept that market shares only have a limited value in the face of rapid innovation.[33] The underlying issue, of course, was that market boundaries may inadvertently shift in highly dynamic markets such as the one at issue in that case. The Commission has recognised the two-sided nature of some markets in decisions relating to online advertising and internet search engines.[34] The Commission also dealt with market definition in innovative digital market environments in its three *Google* cases, which led to record fines.[35] The question whether intellectual property rights (IPRs) should help delineate antitrust markets has also been considered in a number of cases.[36]

In the US, the US Supreme Court places considerable weight on market definition, holding that the relevant market decides the case in most antitrust proceedings.[37] In several landmark rulings,[38] the Supreme Court has set out how antitrust markets should be defined based on demand and supply substitutability. It remains to be established to what extent market definition differs when applied under section 1 or 2 of the Sherman Act or under section 7 of the Clayton Act.[39]

[31] European Commission, Guidelines on the applicability of Article 101 of the Treaty on the Functioning of the European Union to horizontal co-operation agreements [2011] OJ C11/1, paras 112 f.

[32] Commission Regulation (EU) 316/2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements [2014] OJ L93/17 (TTBER), art 1(j)–(m).

[33] *Microsoft/Skype* (Case COMP/M.6281) Commission Decision of 7 October 2011, paras 78, 99; Case T-79/12 *Cisco Systems & Messagenet v Commission* EU:T:2013:635, para 69.

[34] *Google/DoubleClick* (Case COMP/M.4731) Commission Decision of 11 March 2008 [2008] OJ C184/10, paras 20, 290; *Microsoft/Yahoo! Search Business* (Case COMP/M.5727) Commission Decision of 18 February 2010, paras 47, 100.

[35] *Google Search (Shopping)* (Case AT.39740) Commission Decision of 27 June 2017 [2018] OJ C9/11, currently on appeal as Case T-612/17 *Google and Alphabet v Commission* [2017] OJ C369/37; *Google Android* (Case AT.40099) Commission Decision of 18 July 2018, currently on appeal as Case T-604/18 *Google and Alphabet v Commission* [2018] OJ C445/21; *Google Search (AdSense)* (Case AT.40411) Commission Decision of 20 March 2019, currently on appeal as Case T-334/19 *Google and Alphabet v Commission* [2019] OJ C255/46.

[36] See ch 6.

[37] *Eastman Kodak v Image Technical Services*, 504 US 451, 469 fn 15 (1992).

[38] On these, see ch 2, section I.A.

[39] Sherman Antitrust Act (1890), 15 USC §§ 1–7, as amended; Clayton Antitrust Act (1914), 15 USC §§ 12–27, as amended. See, eg, JO von Kalinowski, 'Market Definition under Section 2: The Applicability of Clayton Act Section 7 Analysis' (1978) 10 *Southwestern University Law Review* 95; L Griggs, 'A Teleological Approach to Market Definition – Has it Led to Single Product Market Definition?' (2002) 4 *University of Notre Dame Australia Law Review* 77.

Recently, the US antitrust agencies have put less emphasis on market definition. In their joint 2010 Horizontal Merger Guidelines, the US Department of Justice (DoJ) and the Federal Trade Commission (FTC) point out that market definition is no longer the necessary starting point when analysing a proposed merger.[40] In addition, they consider that '[r]elevant markets need not have precise metes and bounds'[41] and are thought of as an approximation to the reality of the market, while in the EU, market shares will often decide on the applicability of certain antitrust rules, thus presupposing a rather precise definition of the relevant market.

Despite their view that market definition in innovation-intensive industries does not require any analysis out of the ordinary,[42] the US antitrust agencies have taken market definition in innovative markets seriously. Several of their policy documents relate to the issue of how to address innovation in antitrust market definition. In 1995, the DoJ and the FTC issued Antitrust Guidelines for the Licensing of Intellectual Property (IP Guidelines), in which they state that innovation and consumer welfare are the common goals of the intellectual property and antitrust laws.[43] This assertion was maintained in the 2017 update to the IP Guidelines.[44] In the context of antitrust analysis, the agencies will not equate ownership of an IPR with the possession of market power.[45] This conclusion is today strongly supported by case law, which has found that a patent does not in itself confer market power.[46] Instead, market power will need to be proved with reference to the relevant market at issue, which might or might not be delineated by IPRs.

The agencies' IP Guidelines introduced the concept of R&D markets (previously innovation markets).[47] The R&D market concept was – and to some extent still is – vividly discussed in the literature.[48] Such an R&D market 'consists of the assets comprising research and development related to the identification of a commercializable product, or directed to particular new or improved goods or processes, and the close substitutes for that research and development'.[49] The R&D market is distinct from the technology market,

[40] US Department of Justice and Federal Trade Commission, Horizontal Merger Guidelines (19 August 2010) (US Horizontal Merger Guidelines 2010) § 4.

[41] ibid.

[42] United States in OECD (ed), *Policy Roundtable: Market Definition* (2012) DAF/COMP(2012)19, 331.

[43] US Department of Justice and Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property (6 April 1995) (US IP Guidelines 1995) § 1.0.

[44] US Department of Justice and Federal Trade Commission, Antitrust Guidelines for the Licensing of Intellectual Property (14 January 2017) (US IP Guidelines 2017) § 1.0.

[45] ibid §§ 2.0, 2.2.

[46] *CSU and Others v Xerox Corp*, 203 F3d 1322, 1325 (Fed Cir 2000); *Illinois Tool Works and Others v Independent Ink*, 547 US 28, 31 (2006).

[47] US IP Guidelines 1995 (n 43) § 3.2.3; US IP Guidelines 2017 (n 44) § 3.2.3.

[48] See ch 5, section II.

[49] US IP Guidelines 2017 (n 44) § 3.2.3.

especially where it relates to products that do not yet exist. Importantly, the agencies will only rely on an R&D market where the special assets or characteristics of a company are determinative for that company's ability to engage in the R&D in question.[50] The agencies have acknowledged that part of the criticism directed at the innovation market concept was based on the lack of insight as to how market structure and innovation are interrelated.[51] The agencies' Competitor Collaboration Guidelines of 2000 define three possible markets that can be looked at when assessing horizontal agreements: product, technology and innovation markets.[52] Developing case law already demonstrates how the agencies[53] and the courts[54] have tried to tackle the delineation of innovation-intensive markets.

The arbitrary nature of market definition from an economics point of view has been criticised for many decades.[55] The realisation that various forms of innovation are essential for consumer welfare[56] – and indeed for social welfare at large – has only heightened this problem. Conceptually, the relevant market as it applies in competition law is in dire need of an in-depth inquiry, especially for highly dynamic markets.[57] In addition, the last few years have seen an important debate questioning whether there is any need for market definition in antitrust at all.[58] In the context of rapid innovation and IPRs, this debate can have an important impact on market delineation in these market environments. The present study ties these different strands together: it deconstructs and reconceptualises the legal analytical framework for delineating innovative markets from a comparative perspective encompassing EU competition and US antitrust law, thereby providing an impetus for overhauling said legal framework with the characteristics of innovative markets in mind.

[50] ibid.

[51] United States in OECD (ed), *Policy Roundtable: Merger Review in Emerging High Innovation Markets* (2002) DAFFE/COMP(2002)20, 149.

[52] Federal Trade Commission and US Department of Justice, Antitrust Guidelines for Collaborations among Competitors (April 2000) (US CC Guidelines 2000) §§ 3.32(a) to (c).

[53] eg, *Sensormatic Electronics*, 119 FTC 520 (1995); *Upjohn and Others*, 121 FTC 44 (1996); Federal Trade Commission, 'Statement Concerning *Google/DoubleClick*, Case 071-0170' (20 December 2007); *Motorola Mobility & Google*, 156 FTC 147 (2013).

[54] eg, *Realcomp II Ltd v FTC*, Case 9320 (ALJ) (10 December 2009).

[55] EH Chamberlin, 'Product Heterogeneity and Public Policy' (1950) 40 *American Economic Review* 85, 86; GE Hale and RD Hale, *Market Power: Size and Shape under the Sherman Act* (Boston, Little, Brown & Comp, 1958) 111.

[56] Consumer welfare is here broadly understood as the promotion of consumer interests, which includes price, service, quality, choice and innovation, rather than the more technical understanding of consumer welfare in the Chicagoan sense; see also E Buttigieg, *Competition Law: Safeguarding the Consumer Interest: A Comparative Analysis of US Antitrust Law and EC Competition Law* (Alphen aan den Rijn, Kluwer Law International, 2009) 1.

[57] R Podszun, 'The Arbitrariness of Market Definition and an Evolutionary Concept of Markets' (2016) 61 *Antitrust Bulletin* 121, 123.

[58] See Kaplow, 'Why (Ever) Define Markets?' (n 11); and ch 2, section IV.

II. The Parameters of this Study

A. The Relevant Market as a Legal Concept of Competition Law

The present study is based on the premise that the relevant market is a legal concept which is employed in competition law.[59] Relevant antitrust markets are legal 'constructs to facilitate analysis of particular alleged conduct rather than facts in their own right'.[60] The relevant market as understood by competition lawyers is not identical to the market in a business sense[61] nor to the market as it is generally understood in economics.[62] This is also the reason why managers' insights into demand substitution might be of great value for antitrust market definition, but their views as to what they regard as the market might not.[63] When incorporating the economic concept of a relevant market into competition law, this concept becomes a legal concept that relates to the same core, but at the same time takes on distinct conceptions that satisfy the requirements of the law.[64] Within competition law, this concept fulfils a number of functions, as will be discussed in Chapter 2.

In analysing a legal concept such as the relevant market, it is important to bear in mind the context within which it operates.[65] When 'rationally reconstruct[ing]' the relevant market concept, one converts that concept into a more concrete form while retaining its actual meaning.[66] In doing so, one is necessarily influenced by two factors: by what one assumes the concept's original meaning to be and by what one believes the concept's meaning ought to be. The present volume positions the legal concept of the relevant market within the innovation context, thus understanding innovation as the inevitable backdrop of which competition law should be mindful. Well-established principles of competition law are reconsidered in the dynamic light of innovation, while at the same time recognising the legal and cultural limitations that are embodied in the law.

[59] See VHSE Robertson, 'The Relevant Market in Competition Law: A Legal Concept' (2019) 7 *Journal of Antitrust Enforcement* 158.

[60] RL Smith, 'Defining and Proving Markets and Market Power' in J Duns, A Duke and BJ Sweeney (eds), *Comparative Competition Law* (Cheltenham, Edward Elgar, 2015) 32.

[61] EU Market Definition Notice 1997 (n 8) para 3.

[62] PA Geroski, 'Thinking Creatively about Markets' (1998) 16 *International Journal of Industrial Organization* 677, 678; R Podszun and B Franz, 'Was ist ein Markt? – Unentgeltliche Leistungsbeziehungen im Kartellrecht' (2015) 3 *Neue Zeitschrift für Kartellrecht* 121, 125.

[63] See also JB Baker, 'Market Definition: An Analytical Overview' (2007) 74 *Antitrust Law Journal* 129, 139; C Caffarra and M Walker, 'An Exploration into the Use of Economics before Courts in Europe' (2010) 1 *Journal of European Competition Law & Practice* 158, 159.

[64] See Robertson, 'Legal Concept' (n 59) 164.

[65] See already Å Frändberg, 'An Essay on Legal Concept Formation' in JC Hage and D von der Pfordten (eds), *Concepts in Law* (Berlin, Springer, 2009) 15.

[66] T Spaak, 'Explicating the Concept of Legal Competence' in JC Hage and D von der Pfordten (eds), *Concepts in Law* (Berlin, Springer, 2009) 69.

B. On the Relationship between Law and Economics in Competition Law

Antitrust law is based on a certain understanding of how markets work and how they contribute to overall social or consumer welfare – an understanding that itself was greatly shaped by economics. This is one of the reasons why the question to what extent economic analysis is and should be used in competition law remains one of the major recurring themes in comparative competition law.[67] The present study acknowledges that the foundations of competition law are often rooted in economic thinking, making economics a natural sister discipline for competition lawyers. At the same time, however, market definition can be regarded as a troubled 'marriage of the economic and legal disciplines' with divorce just around the corner.[68] The increasing reliance of competition law on economics is often met with considerable scepticism, both because industrial economics itself is divided about the theoretical foundations of antitrust economics and because an economic approach may prove too complex to be justiciable.[69] The law must prescribe the scope for economic analysis in a competition law case,[70] while that economic analysis cannot replace the legal analysis.[71] Where competition law (also) pursues certain non-economic goals, economics will often not provide the insights that the law requires.[72] When economics reaches its limits, it is the law that must take over.[73]

While this study recognises the importance of economics for the relevant market concept, it does not employ the efficiency-based methodology of law and economics. Law and economics tries to predict the reactions both by individuals and by firms to the laws under scrutiny.[74] It sees law as a tool for steering human behaviour in order to attain certain policy objectives, most importantly efficiency.[75] As dynamic efficiency cannot be as readily measured as allocative or

[67] D Geradin, 'Competition Law' in JM Smits (ed), *Elgar Encyclopedia of Comparative Law*, 2nd edn (Cheltenham, Edward Elgar, 2012) 210.

[68] ML Glassman, 'Market Definition as a Practical Matter' (1980) 49 *Antitrust Law Journal* 1155, 1155.

[69] K Heyer, 'A World of Uncertainty: Economics and the Globalization of Antitrust' (2005) 72 *Antitrust Law Journal* 375, 379; ILO Schmidt, 'The Suitability of the More Economic Approach for Competition Policy: Dynamic vs Static Efficiency' (2007) 28 *European Competition Law Review* 408, 408–10.

[70] Y Katsoulacos, S Avdashevaa and S Golovanova, 'Legal Standards and the Role of Economics in Competition Law Enforcement' (2017) 12 *European Competition Journal* 277, 278.

[71] Case T-1/89 *Rhône-Poulenc v Commission* EU:T:1991:38, Opinion of AG Vesterdorf, 957.

[72] RJ van den Bergh, 'The More Economic Approach in European Competition Law: Is More Too Much or Not Enough?' in M Kovač and A-S Vandenberghe (eds), *Economic Evidence in EU Competition Law* (Cambridge, Intersentia, 2016) 14.

[73] RH Pate, 'The Common Law Approach and Improving Standards for Analyzing Single Firm Conduct' (Thirtieth Annual Conference on International Antitrust Law and Policy, New York, 23 October 2003) 27 f.

[74] R Cooter and T Ulen, *Law & Economics*, 6th edn (Boston, Pearson, 2012) 3 f.

[75] ibid 9; U Kischel, *Comparative Law* (A Hammel (trans), Oxford, Oxford University Press, 2019) § 3 para 56.

productive efficiencies, both of which are more static in nature, innovation is not only hard to predict, but also difficult to measure retrospectively.[76] In addition, the relevant market is not a fully-fledged legal rule which could be analysed from a law and economics point of view – it is but an analytical tool, albeit a very consequential one.

From a comparative perspective, there was a noticeable push towards a more economics-based approach to competition law in general and market delineation in particular within the European Commission in the 1990s,[77] while economics has for many decades played an important role in US market definition and continues to do so.[78] Only recently, the US Supreme Court conceded that courts may re-interpret the antitrust laws in the light of evolving insights from economics,[79] thus paving the way for an economics-minded understanding of antitrust law. In Europe, it remains more controversial than in the US whether economics should fill antitrust concepts with meaning.[80]

Broaching the theme of convergence, which occupies a special place in comparative competition law, there is a widespread belief that economic insights shared across jurisdictions may provide an important impetus for convergence between competition law systems.[81] However, this expectation is generally based on the premise that economic insights are uniform,[82] which arguably they are not.[83] The question then turns on which economic school ought to drive this envisaged convergence.

As was stated above, the relevant market concept as relied upon in antitrust shares its roots with economics, but has a specific legal conception.[84] The innate differences between antitrust law on the one hand and antitrust economics on the

[76] JW Markham, 'The Joint Effect of Antitrust and Patent Laws upon Innovation' (1966) 56 *American Economic Review* 291, 291; Schmidt, 'More Economic Approach' (n 69) 408; MA Schilling, 'Towards Dynamic Efficiency: Innovation and its Implications for Antitrust' (2015) 60 *Antitrust Bulletin* 191, 192.

[77] See M Monti, 'Market Definition as a Cornerstone of EU Competition Policy' (SPEECH/01/439, Helsinki, 5 October 2001); T Ackermann, 'European Competition Law' in K Riesenhuber (ed), *European Legal Method* (Cambridge, Intersentia, 2017) § 20.22.

[78] GR Hall, 'Market Definition and Antitrust Policy' (1963) 20 *Washington & Lee Law Review* 47, 47; HJ Hovenkamp, 'The Reckoning of Post-Chicago Antitrust' in A Cucinotta, R Pardolesi and RJ van den Bergh (eds), *Post-Chicago Developments in Antitrust Law* (Cheltenham, Edward Elgar, 2002) 1 f.

[79] *Kimble v Marvel Entertainment*, 576 US ___ (2015), 135 SCt 2401, 2412 f (2015).

[80] See P Ibáñez Colomo, 'Beyond the "More Economics-Based Approach": A Legal Perspective on Article 102 TFEU Case Law' (2016) 53 *CML Rev* 709, 711.

[81] L-H Röller, 'Antitrust Economics: Catalyst for Convergence' (George Mason Law Review Symposium, Washington, DC, 6 October 2004); J Vickers, 'Competition Law and Economics: A Mid-Atlantic Viewpoint' (2007) 3 *European Competition Journal* 1; A Devlin and M Jacobs, 'Antitrust Divergence and the Limits of Economics' (2010) 104 *Northwestern University Law Review* 253, 256, 262; DJ Gerber, 'Global Competition Law Convergence: Potential Roles for Economics' in T Eisenberg and G Ramello (eds), *Comparative Law and Economics* (Cheltenham, Edward Elgar, 2016) 206, 214.

[82] A Ezrachi, 'Sponge' (2017) 5 *Journal of Antitrust Enforcement* 49, 60.

[83] DJ Gerber, 'Competition Law and the Institutional Embeddedness of Economics' in J Drexl, L Idot and J Monéger (eds), *Economic Theory and Competition Law* (Cheltenham, Edward Elgar, 2009) 24.

[84] DF Turner, 'The Role of the "Market Concept" in Antitrust Law' (1980) 49 *Antitrust Law Journal* 1145, 1147; Robertson, 'Legal Concept' (n 59) 164.

other cannot be ignored: economics can provide a very informative basis from which to venture into an antitrust discussion, and it can provide models that try to explain complex economic realities and attempt to predict future economic conduct. Law, on the other hand, needs to provide legally binding rules upon which all those subjected to them can rely in order to evaluate the legality of their conduct, their rights and obligations. As such, the law must provide a coherent legal test for defining antitrust markets that antitrust analysis can build upon. While the law may very well learn from the insights of antitrust economics, including behavioural economics, and can use this discipline when applying its legal concepts to new economic phenomena (such as platform markets), its primary task remains the provision of normative guidance. Once reliable normative guidance is established, economic expertise can serve to elucidate questions of fact as the relevant market is delineated in practice, for instance, through expert opinions commissioned by the parties to an antitrust lawsuit or by the court itself. Therefore, while economics can inform and help us to elucidate legal principles, it is ultimately the law – or the judge or authority applying the law – which must make the normative decision. It is this normative guidance on market definition that the present study is concerned with. While it draws on insights from economics as well as from the economic analysis of the law, it adopts a distinctly legal approach when reconceptualising the legal framework for market delineation in an innovation context.

III. The Course of this Study

The study proceeds in three parts. In Part I, this introduction is followed by Chapter 2, which sets out the aims and purposes of market definition in EU competition and US antitrust law. It investigates the relevant market concept under US antitrust law, highlighting the substantive tests that the US Supreme Court has developed in this respect. It then turns to the functions of market definition under the three main US antitrust provisions: sections 1 and 2 of the Sherman Act and section 7 of the Clayton Act. It also analyses agency guidance on market definition, particularly under the Horizontal Merger Guidelines 2010. Thereafter, it moves on to the relevant market concept under EU competition law, discussing the substantive tests under the EU Courts' case law and the emerging role of the General Court, as well as the vague concept of sufficient interchangeability. It then considers the functions of market definition under the three main EU competition law provisions: Articles 101 and 102 TFEU and the EU Merger Regulation.[85] Commission guidance on market definition is discussed in some detail. Subsequently, the chapter takes a first comparative look at the functions of the relevant market in these two jurisdictions, finding that market definition can

[85] Council Regulation (EC) 139/2004 on the control of concentrations between undertakings [2004] OJ L24/1 (EU Merger Regulation).

be ascribed two essential functions: that of providing a basis for assessing market power in a given case, and functions outside of market power assessment that can be summarised as market characterisation. As will be seen, these functions are not mutually exclusive, but can complement each other. While the market power function makes available insights for a competition law assessment based on a structural approach, the market characterisation function provides the necessary market context in order to understand and apply the competition theory of harm and an analysis of anti-competitive effects.

The debate on whether antitrust can and should continue to rely on market definition is also detailed, referencing amongst others the scholarship of Louis Kaplow and Richard Markovits. The validity of the arguments presented by these scholars is critically discussed. While these authors tend to focus on market definition's market power function, they often neglect its role for market characterisation. Their arguments cannot automatically be applied to this second function of market definition. A European perspective on that debate is developed, focusing on market definition as a legal concept rather than an economic tool.

Chapter 2 is a comparative inquiry into antitrust law as it developed and now stands in the area of market definition. It is conducted as a comparison of concepts or a *Konzeptvergleich*, relying on an inverted functional approach to comparative law that strives to understand the functions that the legal concept of the relevant market fulfils in EU and US antitrust law.[86] Instead of focusing on a socio-legal problem, as the functional method of comparison would,[87] the comparison of concepts focuses on a legal concept that is present in both jurisdictions under scrutiny, striving to uncover its respective content and putting it into a comparative perspective. The study therefore examines to what extent the legal concept of the relevant antitrust market fulfils the same or different functions in the EU and US, and whether in its application it is subject to the same or different interpretation(s). While both the EU and US rely on the same terminology, it cannot be ruled out that we are dealing with a linguistic *faux ami*.[88]

Chapter 3 centres on the framework of innovation. This aspect of the research is problem-oriented, containing both descriptive and evaluative aspects. It defines the notion of innovation as understood in the present context and assesses the specific challenges that innovative markets pose for antitrust market definition.

[86] See Kischel (n 75) § 3, paras 166, 190.

[87] On that method, see M Rheinstein, 'Teaching Comparative Law' (1938) 5 *University of Chicago Law Review* 615, 617 ff; E Rabel, 'Die Fachgebiete des Kaiser-Wilhelm-Instituts für ausländisches und internationales Privatrecht (gegründet 1926) (1900–1935)' in M Planck (ed), *25 Jahre Kaiser Wilhelm-Gesellschaft zur Förderung der Wissenschaften*, vol III (Berlin, Springer, 1937) 82; K Zweigert and H Kötz, *Einführung in die Rechtsvergleichung auf dem Gebiete des Privatrechts*, 3rd edn (Tübingen, Mohr Siebeck, 1996) 33; R Michaels, 'The Functional Method of Comparative Law' in M Reimann and R Zimmermann (eds), *The Oxford Handbook of Comparative Law*, 2nd edn (Oxford, Oxford University Press, 2019) 345.

[88] On language as one of the major pitfalls of comparative law, see P de Cruz, *Comparative Law in a Changing World*, 3rd edn (New York, Routledge-Cavendish, 2008) 220.

It is seen how the features of innovative market environments cannot easily be accommodated by conventional antitrust market definition as outlined in Chapter 2. Several points of view on incorporating innovation considerations into market definition are then discussed, including the Schumpeter v Arrow debate, views from competition policy and the issue of error costs associated with market definition.

Part II of this volume is dedicated to the innovation factor in antitrust market delineation. It uncovers the many ways in which antitrust authorities, courts and legal scholarship in the EU and the US have met the various challenges of dynamic markets when defining antitrust markets, especially in the last two decades. This analysis is made against the background of the general legal frameworks for antitrust market definition currently in place in both the EU and US. Data analysed for market definition in innovative markets includes competition authority decisions and court judgments as well as antitrust law scholarship and policy documents. The different solutions that have been adopted regarding antitrust market definition in the face of innovation on both sides of the Atlantic are juxtaposed and their respective strengths and weaknesses, convergences and divergences are analysed. Importantly, the solutions found in the two jurisdictions are scrutinised against the background of their functional role in antitrust, and it is discussed how well they depict innovative markets as a basis for further antitrust scrutiny.

To set the scene, Chapter 4 looks at innovative product markets, discussing the innovative nature of certain markets and the application of conventional substitutability tests to them. Product differentiation – for instance, in the form of the online/offline paradigm or concerning the functionalities of a product – is highlighted as an area of concern, as are interoperability issues that might lead to the delineation of narrow markets. Current markets are closely connected to future markets, and the question is addressed at what point innovation becomes a question of tomorrow's markets rather than today's – and how these can meaningfully be conceptualised for antitrust market definition.

Chapter 5 looks at ways to capture antitrust markets before they are properly established, in particular through potential competition considerations. The US-inspired R&D market concept is also discussed, showing that the EU never fully embraced this approach. The focus then moves to innovation competition as a dimension that is situated outside of market definition proper, but that is highly relevant to the present study as it takes up where market definition leaves off. Chapter 6 deals with the role of IPRs in delineating relevant antitrust markets, showing how IPRs are no longer seen as synonymous with market power, at least in theory. It also highlights a string of cases in which the relevant market was delineated along the lines of an IPR, particularly in the case of successful IPRs that convey a strong brand image. Technology markets are discussed as a useful way of conceptualising licensing markets. Next, innovative aftermarkets (Chapter 7) are looked at, showing how these profitable markets are often sealed off by innovators, particularly with the help of IPRs. Multi-sided platforms (Chapter 8) are then looked at in some detail, with a particular emphasis on digital platform markets.

Here, a remarkable clash between traditional and more dynamic approaches to market definition can be observed. By tracing the case law, it is seen that courts demonstrate a growing awareness of current economics literature. Chapter 9 is a foray into industrial organisation, and cautiously suggests to what limited extent standard economic tests such as the hypothetical monopolist test or concentration levels are applicable in innovative markets. It also briefly outlines issues of geographical market definition in innovative markets.

A dialectical comparison ensures that findings arrived at in Part II enter into a dialogue, presenting comparative conclusions in a straightforward manner.[89] This methodology understands comparative legal research as a hermeneutic, dynamic process that continuously puts previous findings into a new perspective.[90] It lends itself both to analytical comparison and to law reform proposals building on the dialectical comparison. It follows an integrative approach both in its research design and in presenting and discussing the research findings.[91] The dialectical comparison allows for a new analysis of traditional antitrust market definition in the light of innovation considerations by giving the two jurisdictions at the heart of this study the space to interact, while creating as few artificial barriers in the form of separate jurisdictional chapters as possible.

Part III ties the findings of the previous chapters together and provides a comprehensive yet succinct picture for reconceptualising the legal framework(s) for defining antitrust markets in innovative environments. The reconceptualisation in Chapter 10 builds on the rich comparative law analysis in Part II and adds a law reform approach to the comparative analysis with a view to improving market definition *de lege ferenda*.[92] The chapter develops two sets of model guidance for delineating innovative markets, each resting on a typology that is based on the functions of market definition uncovered in Chapter 2. The first set of guidelines focuses on the function of market definition that informs market power assessments and is more traditional and static in nature, while valuing innovation as one of the goals of competition law. The second set of model guidance focuses on the market characterisation role of market definition, is more dynamic in nature and has innovation as one of its central themes. In substantive terms, the guidance draws on the many insights gained in Part II and closely follows the structure of that part of the book. The two different approaches to market delineation in innovative markets are then discussed with a view to establishing how well they depict innovation, and which consequences each approach might entail for the subsequent substantive antitrust assessment.

[89] eg, A Tschentscher, 'Dialektische Rechtsvergleichung – Zur Methode der Komparistik im öffentlichen Recht' (2007) 62 *JuristenZeitung* 807.

[90] ibid 815; J Husa, *A New Introduction to Comparative Law* (Oxford, Hart Publishing, 2015) 96.

[91] Tschentscher (n 89) 807, 809, 815; G Samuel, *An Introduction to Comparative Law Theory and Method* (Oxford, Hart Publishing, 2014) 92; Kischel (n 75) § 3, para 53.

[92] On comparative law as a basis for law reform, see already L-J Constantinesco, *Rechtsvergleichung, Band II: Die rechtsvergleichende Methode* (Cologne, Carl Heymanns, 1972) 371–73.

Chapter 11 reflects on market definition's role in dynamic contexts and argues that a reconceptualisation of market definition as proposed here makes it unnecessary to do away with the concept altogether. The issue of legal culture is touched upon, which might not readily allow for the adoption of (parts of) the guidelines in certain jurisdictions. Discussion is given to what degree market definition in its current state is failing innovation through its focus on static price competition, and it is suggested that this bias may be remedied – at least to a certain degree – by relying on a more innovation-sensitive market definition framework.